

## SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: Sin J. Lee Examiner #: 76060 Date: 6-16-2005  
 Art Unit: 1752 Phone Number 302-1333 Serial Number: 101689,482  
 Mail Box and Bldg/Room Location: 9D60 Results Format Preferred (circle): PAPER DISK E-MAIL  
 (Rem.)

If more than one search is submitted, please prioritize searches in order of need.

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: P12. See B1b.

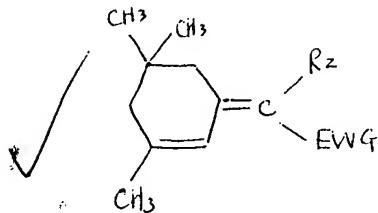
Inventors (please provide full names): SCIENTIFIC REFERENCE BR  
Sci & Tech Inf. Ctr

Earliest Priority Filing Date: JUN 17 1992

\*For Sequence Searches Only\* Please include all pertinent information (parent, child, divisional, or issued patent numbers) & appropriate serial number.

Lee-689R

Please search for a polymer which has the following moiety in the side chain.

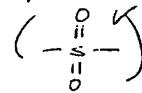


R<sub>2</sub> = H, alkyl (cyclic, acyclic), heteroalkyl, or EWG

EWG = non-aromatic electron withdrawing gp.

Such as:

- carbonyl (-C=O) ✓
- cyanide (-C≡N) ✓
- imino (-N=C) ✓
- carboxylic acid (-COOH) ✓
- Carboxylic ester (-COOR)
- Carboxamido (-C(=O)-NH-) ✓
- Carboximidoo or Sulfonyl gp.



## STAFF USE ONLY

Searcher: X. Fuller

Searcher Phone #: \_\_\_\_\_

Searcher Location: \_\_\_\_\_

Date Searcher Picked Up: 7/5/05

Date Completed: 7/5/05

Searcher Prep & Review Time: 30

Clerical Prep Time: 30

Online Time: 30

## Type of Search

NA Sequence (#) \_\_\_\_\_

AA Sequence (#) \_\_\_\_\_

Structure (#) 2

Bibliographic \_\_\_\_\_

Litigation \_\_\_\_\_

Fulltext \_\_\_\_\_

Patent Family \_\_\_\_\_

Other \_\_\_\_\_

## Vendors and cost where applicable

STN ✓

Dialog \_\_\_\_\_

Questel/Orbit \_\_\_\_\_

Dr.Link \_\_\_\_\_

Lexis/Nexis \_\_\_\_\_

Sequence Systems \_\_\_\_\_

WWW/Internet \_\_\_\_\_

Other (specify) \_\_\_\_\_

> file reg  
FILE 'REGISTRY' ENTERED AT 09:18:34 ON 05 JUL 2005  
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.  
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Property values tagged with IC are from the ZIC/VINITI data file provided by InfoChem.

STRUCTURE FILE UPDATES: 4 JUL 2005 HIGHEST RN 853727-85-2  
DICTIONARY FILE UPDATES: 4 JUL 2005 HIGHEST RN 853727-85-2

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH JANUARY 18, 2005

Please note that search-term pricing does apply when conducting SmartSELECT searches.

\*\*\*\*\*  
\*  
\* The CA roles and document type information have been removed from \*  
\* the IDE default display format and the ED field has been added, \*  
\* effective March 20, 2005. A new display format, IDERL, is now \*  
\* available and contains the CA role and document type information. \*  
\*  
\*\*\*\*\*

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. For more information enter HELP PROP at an arrow prompt in the file or refer to the file summary sheet on the web at:  
<http://www.cas.org/ONLINE/DBSS/registryss.html>

=> d que  
L1 SCR 2043  
L2 STR  
O~~S~~O  
8 @9 10

3788 structures from  
this query

C~~O C=\*=C-\*C==C\*=G1  
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C-X~N  
@6 @7

VAR G1=4/6/7/9  
NODE ATTRIBUTES:

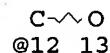
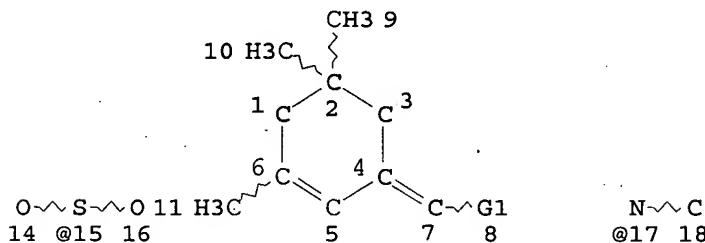
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NSPEC IS RC AT 2  
NSPEC IS RC AT 4  
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NSPEC IS RC AT 9  
NSPEC IS RC AT 11  
NSPEC IS RC AT 12  
CONNECT IS E1 RC AT 5  
DEFAULT MLEVEL IS ATOM  
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED  
NUMBER OF NODES IS 12

STEREO ATTRIBUTES: NONE

L3 3788 SEA FILE=REGISTRY SSS FUL L2 AND L1  
L7 STR



VAR G1=CN/12/15/17

NODE ATTRIBUTES:

CONNECT IS E1 RC AT 13  
CONNECT IS E1 RC AT 14  
CONNECT IS E1 RC AT 16  
DEFAULT MLEVEL IS ATOM  
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RSPEC I

NUMBER OF NODES IS 18

STEREO ATTRIBUTES: NONE

L10 0 SEA FILE=REGISTRY SUB=L3 SSS FUL L7

=>

Zero answers

## SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: S. n. J. Lee Examiner #: 76060 Date: 6-16-2005  
 Art Unit: 1752 Phone Number 30 2-1333 Serial Number: 10/689,482  
 Mail Box and Bldg/Room Location: 90860 Results Format Preferred (circle): PAPER DISK E-MAIL  
 (Rem.)

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Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

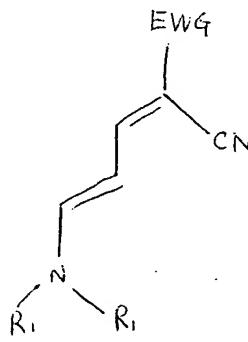
Title of Invention: Plz. See B-6. SCIENTIFIC REFERENCE BR  
 Inventors (please provide full names): Sci & Tech Inf - Cntr  
JUN 17 REC'D

Earliest Priority Filing Date: \_\_\_\_\_ Pat. & T.M. Office

\*For Sequence Searches Only\* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

10/689CN

Please search for a polymer which has the following moiety in the side chain. (for example, the EWG gp can be bonded to the back bone of the polymer)



R<sub>1</sub> = non-aromatic and represents H, alkyl (acyclic or cyclic), or heteroalkyl

EWG = non-aromatic, electron withdrawing gp

such as carbonyl (-C=O), cyano (-C≡N), imino (-N=C=), carboxylic acid (-COOH), carboxylic ester (-COOR), carboxamido (-C(=O)-NH-), carboximido or Sulfonyl gp (-S(=O)(=O)-)

STAFF USE ONLY		Type of Search	Vendors and cost where applicable
Searcher: <u>X. Fuller</u>	NA Sequence (#)	STN	<u>✓</u>
Searcher Phone #:	AA Sequence (#)	Dialog	
Searcher Location:	Structure (#)	Questel/Orbit	
Date Searcher Picked Up:	Bibliographic	Dr. Link	
Date Completed: <u>7/5/05</u>	Litigation	Lexis/Nexis	
Searcher Prep & Review Time: <u>30</u>	Fulltext	Sequence Systems	
Clerical Prep Time:	Patent Family	WWW/Internet	
Online Time: <u>30</u>	Other	Other (specify)	

batch subset

LEE 10/689482 CN 7/5/05 Page 1

=> file reg

FILE 'REGISTRY' ENTERED AT 09:24:49 ON 05 JUL 2005  
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DICTIONARY FILE UPDATES: 4 JUL 2005 HIGHEST RN 853727-85-2

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Experimental and calculated property data are now available. For more  
information enter HELP PROP at an arrow prompt in the file or refer  
to the file summary sheet on the web at:  
<http://www.cas.org/ONLINE/DBSS/registryss.html>

=> file hcaplu

FILE 'HCAPLU' ENTERED AT 09:24:53 ON 05 JUL 2005  
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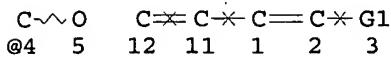
FILE COVERS 1907 - 5 Jul 2005 VOL 143 ISS 2  
FILE LAST UPDATED: 4 Jul 2005 (20050704/ED)

New CAS Information Use Policies, enter HELP USAGETERMS for details.

This file contains CAS Registry Numbers for easy and accurate  
substance identification.

KATHLEEN FULLER EIC 1700 REMSON 4B28 571/272-2505

=> d que  
 L1 SCR 2043  
 L2 STR  
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 8 @9 10



$C \not\equiv N$   
 @6 @7

VAR G1=4/6/7/9

NODE ATTRIBUTES:

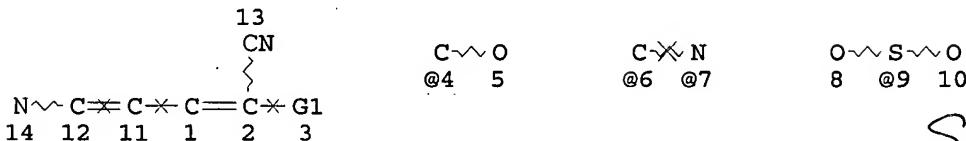
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 NSPEC IS RC AT 2  
 NSPEC IS RC AT 4  
 NSPEC IS RC AT 6  
 NSPEC IS RC AT 7  
 NSPEC IS RC AT 9  
 NSPEC IS RC AT 11  
 NSPEC IS RC AT 12  
 CONNECT IS E1 RC AT 5  
 DEFAULT MLEVEL IS ATOM  
 DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED  
 NUMBER OF NODES IS 12

STEREO ATTRIBUTES: NONE

L3 3788 SEA FILE=REGISTRY SSS FUL L2 AND L1  
 L11 STR



subset search

VAR G1=4/6/7/9

NODE ATTRIBUTES:

NSPEC IS RC AT 1  
 NSPEC IS RC AT 2  
 NSPEC IS RC AT 4  
 NSPEC IS RC AT 6  
 NSPEC IS RC AT 7  
 NSPEC IS RC AT 9  
 NSPEC IS RC AT 11  
 NSPEC IS RC AT 12  
 NSPEC IS RC AT 14

24 polymers

CONNECT IS E1 RC AT 5  
 DEFAULT MLEVEL IS ATOM  
 DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:  
 RING(S) ARE ISOLATED OR EMBEDDED  
 NUMBER OF NODES IS 14

STEREO ATTRIBUTES: NONE

L13 24 SEA FILE=REGISTRY SUB=L3 SSS FUL L11  
 L14 11 SEA FILE=HCAPLUS ABB=ON L13

=> d 114 1-11 bib abs ind hitstr

L14 ANSWER 1 OF 11 HCAPLUS COPYRIGHT 2005 ACS on STN  
 AN 2004:822755 HCAPLUS

DN 141:340487

TI Optical data carrier with polymer network in information layer

IN Berneth, Horst; Bruder, Friedrich-Karl; Hagen, Rainer; Hassenrueck, Karin;  
 Kostromine, Serguei; Krueger, Christa Maria; Meyer-Friedrichsen, Timo;  
 Oser, Rafael; Stawitz, Josef-Walter

PA Bayer Chemicals A.-G., Germany

SO Ger. Offen., 131 pp.

CODEN: GWXXBX

DT Patent

LA German

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 10313173	A1	20041007	DE 2003-10313173	20030325
	WO 2004086390	A1	20041007	WO 2004-EP2585	20040312
	W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW			
	RW:	BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			

PRAI DE 2003-10313173 A 20030325

AB The invention relates to an optical data storage device with at least one information layer, wherein the information layer contains the polymer network with covalent bonded light-absorbable compds. Monomers for the polymer network are prepared

IC ICM G11B007-24

CC 74-12 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

ST optical rewritable recording disk polymer network light absorber

IT Erasable optical disks

(optical data carrier with polymer network in information layer)

IT 62-53-3, Aniline, reactions 74-89-5, Methylamine, reactions 84-83-3  
 107-19-7, Propargyl alcohol 107-21-1, Ethylene glycol, reactions  
 109-73-9, Butylamine, reactions 109-76-2, 1,3-Diaminopropane 109-77-3,  
 Malonic acid dinitrile 109-83-1, 2-Methylamino-ethanol 109-90-0, Ethyl  
 isocyanate 110-75-8, 2-Chloroethyl-vinyl ether 110-87-2,  
 3,4-Dihydro-2H-pyran 110-91-8, Morpholine, reactions 111-42-2,

*11 CA references  
 from the  
 24 polymers*

Diethanolamine, reactions 120-75-2, 2-Methyl-benzothiazole 122-31-6,  
 1,1,3,3-Tetraethoxy-propane 540-51-2, 2-Bromoethanol 622-15-1,  
 N,N'-Diphenylformamidine 627-18-9, 3-Bromo-1-propanol 627-48-5, Cyanic  
 acid ethyl ester 769-42-6, N,N-Dimethyl barbituric acid 814-68-6,  
 Acrylic acid chloride 868-77-9, 2-Hydroxyethyl methacrylate 920-46-7,  
 Methacrylic acid chloride 1640-39-7, 2,3,3-Trimethylindolenine  
 1663-67-8, Malonic acid chloride 1899-24-7, 5-Bromo-2-furaldehyde  
 2420-94-2, 2-Aminoethylmethacrylate hydrochloride 4097-89-6,  
 Tris(2-aminoethyl)amine 7336-29-0, 2-Aminoethyl-vinyl ether 30674-80-7  
 RL: RCT (Reactant); RACT (Reactant or reagent)

(monomer preparation for polymer network; optical data carrier with polymer  
 network in information layer)

IT 4485-89-6P 5807-04-5P 16672-33-6P 17739-45-6P 19660-17-4P  
 21115-26-4P 21761-72-8P 28799-82-8P 42271-11-4P 86219-64-9P  
 111653-59-9P 126858-63-7P 170297-67-3P 174097-08-6P 769934-49-8P  
 769934-50-1P 769934-51-2P 769934-52-3P 769934-53-4P 769934-54-5P  
 769934-55-6P 769934-56-7P 769934-57-8P 769934-58-9P 769934-59-0P  
 769934-60-3P 769934-61-4P 769934-62-5P 769934-63-6P 769934-64-7P  
 769934-65-8P 769934-66-9P 769934-67-0P 769934-68-1P 769934-69-2P  
 769934-70-5P 769934-71-6P 769934-72-7P 769934-73-8P 769934-74-9P  
 769934-75-0P 769934-76-1P 769934-77-2P 769934-78-3P 769934-79-4P  
 769934-80-7P 769934-81-8P 769934-82-9P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
 (Reactant or reagent)

(monomer preparation for polymer network; optical data carrier with polymer  
 network in information layer)

IT 769934-83-0P 769934-85-2P 769934-86-3P 769934-87-4P 769934-88-5P  
 769934-90-9P 769934-91-0P 769934-92-1P 769934-93-2P  
 769934-95-4P 769934-97-6P 769934-99-8P 769935-00-4P 769935-01-5P  
 769935-02-6P 769935-04-8P 769935-06-0P

RL: DEV (Device component use); SPN (Synthetic preparation); PREP  
 (Preparation); USES (Uses)

(polymer network preparation; optical data carrier with polymer network in  
 information layer)

IT 769934-93-2P 769935-06-0P

RL: DEV (Device component use); SPN (Synthetic preparation); PREP  
 (Preparation); USES (Uses)

(polymer network preparation; optical data carrier with polymer network in  
 information layer)

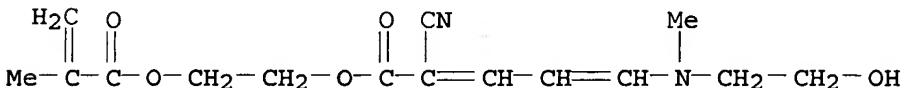
RN 769934-93-2 HCPLUS

CN 2,4-Pentadienoic acid, 2-cyano-5-[(2-hydroxyethyl)methylamino]-,  
 2-[{(2-methyl-1-oxo-2-propenyl)oxy]ethyl ester, homopolymer (9CI) (CA  
 INDEX NAME)

CM 1

CRN 769934-78-3

CMF C15 H20 N2 O5



RN 769935-06-0 HCPLUS

CN 2,4-Pentadienoic acid, 2-cyano-5-[methyl[2-[(2-methyl-1-oxo-2-  
 propenyl)oxy]ethyl]amino]-, 2-[{(2-methyl-1-oxo-2-propenyl)oxy]ethyl ester,  
 homopolymer (9CI) (CA INDEX NAME)



LEE 10/689482 CN 7/5/05 Page 6

460354-55-6, Acrylic acid-ethyl acrylate-phenyl methacrylate copolymer  
460354-56-7

RL: TEM (Technical or engineered material use); USES (Uses)  
(light-, weather-, and water-resistant water-thinned ink-jet inks and  
ink sets)

IT 460354-58-9

RL: TEM (Technical or engineered material use); USES (Uses)  
(assumed monomers; light-, weather-, and water-resistant water-thinned  
ink-jet inks and ink sets)

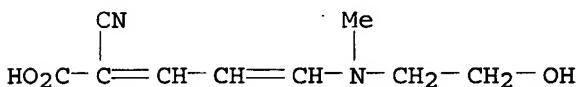
RN 460354-58-9 HCPLUS

CN Butanedioic acid, polymer with 2-cyano-5-[(2-hydroxyethyl)methylamino]-2,4-pentadienoic acid and 1,2-ethanediol (9CI) (CA INDEX NAME)

CM 1

CRN 460354-57-8

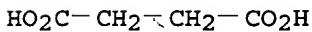
CMF C9 H12 N2 O3



CM 2

CRN 110-15-6

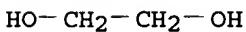
CMF C4 H6 O4



CM 3

CRN 107-21-1

CMF C2 H6 O2



RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L14 ANSWER 3 OF 11 HCPLUS COPYRIGHT 2005 ACS on STN

AN 2002:707097 HCPLUS

DN 137:255354

TI Coating composition for forming weather-resistant film on ink-jet printed  
image

IN Nishida, Nobuhiro

PA Fuji Photo Film Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 36 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

PATENT NO.

KIND DATE

APPLICATION NO.

DATE

KATHLEEN FULLER EIC 1700 REMSON 4B28 571/272-2505

PI JP 2002264465 A2 20020918 JP 2001-67019 20010309  
PRAI JP 2001-67019 20010309

AB The composition contains colorant-free polymer particles and preferably UV-absorbing monomer-containing polymers. Ink-jet printing method by recording image on white inorg. pigment-containing paper and forming a film on the printed paper with the composition, is also claimed. The film formed with the composition gives water-, light- and weather-resistant image.

IC ICM B41M005-00  
ICS B41J002-01; C09D007-12; C09D201-00

CC 74-6 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
Section cross-reference(s): 42

ST weather resistant coating ink jet printed image; polymer particle coating ink jet printed image; UV absorbing polymer coating ink jet printed image

IT Ink-jet printing  
UV stabilizers  
(coating composition containing colorant-free polymer particles for forming weather-resistant film on ink-jet printed image)

IT Coating materials  
(weather-resistant; coating composition containing colorant-free polymer particles for forming weather-resistant film on ink-jet printed image)

IT 30528-51-9 89118-62-7 89231-05-0 96478-13-6 176225-47-1  
460354-56-7 460354-58-9  
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)  
(UV-absorbing; coating composition containing colorant-free polymer particles  
for forming weather-resistant film on ink-jet printed image)

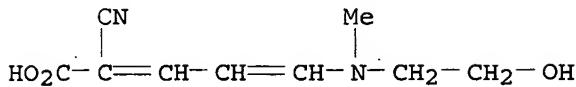
IT 9003-55-8, Butadiene-styrene copolymer 25085-39-6, Acrylic acid-butadiene-styrene copolymer 25153-46-2, 2-Ethylhexyl acrylate-styrene copolymer 29316-78-7, Acrylic acid-butyl acrylate-tert-butyl acrylate copolymer 128896-54-8, Acrylic acid-tert-butylmethacrylamide-methyl methacrylate copolymer 363158-98-9, Acrylic acid-isobutyl methacrylate-polyethylene glycol monomethyl ether methacrylate graft copolymer 369595-80-2, Acrylic acid-isobutyl methacrylate-tetrahydrofurfuryl acrylate copolymer 375346-97-7  
460354-55-6  
RL: TEM (Technical or engineered material use); USES (Uses)  
(coating composition containing colorant-free polymer particles for forming weather-resistant film on ink-jet printed image)

IT 460354-58-9  
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)  
(UV-absorbing; coating composition containing colorant-free polymer particles  
for forming weather-resistant film on ink-jet printed image)

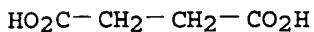
RN 460354-58-9 HCPLUS  
CN Butanedioic acid, polymer with 2-cyano-5-[(2-hydroxyethyl)methylamino]-2,4-pentadienoic acid and 1,2-ethanediol (9CI) (CA INDEX NAME)

CM 1

CRN 460354-57-8  
CMF C9 H12 N2 O3



CM 2

CRN 110-15-6  
CMF C4 H6 O4

CM 3

CRN 107-21-1  
CMF C2 H6 O2

L14 ANSWER 4 OF 11 HCPLUS COPYRIGHT 2005 ACS on STN  
 AN 1988:619489 HCPLUS  
 DN 109:219489  
 TI Silver halide photographic photosensitive materials with improved antistatic and antisweating properties.  
 IN Usagawa, Yasushi; Iwagaki, Masaru  
 PA Konica Co., Japan  
 SO Jpn. Kokai Tokkyo Koho, 20 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 63056651	A2	19880311	JP 1986-200741	19860827
PRAI JP 1986-200741		19860827		

AB An UV-absorbing compound residue-containing polyurethane or polyurea is included  
 in the title photog. material (preferably in its surface protective layer) as an antistatic agent and to prevent sweating. The UV-absorbing compound residue-containing polyurethane or polyurea has the repeating structure Q-(-Y-)n (Q = UV-absorbing compound residue; Y = O, NR; R = H, alkyl, cycloalkyl, Ph; n = 2-4). Isocyanates and an UV-absorbing compound having OH or NH<sub>2</sub> groups may be polymerized to give the polyurethane or polyurea.

IC ICM G03C001-82  
 ICS G03C001-76  
 CC 74-2 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
 ST silver photog material antistatic antisweating; UV absorber polyurethane photog material; polyurea UV absorber photog material  
 IT Polyureas  
 Urethane polymers, uses and miscellaneous  
 RL: USES (Uses)

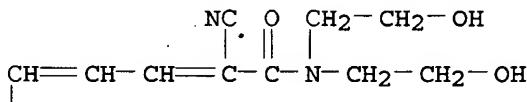
(UV-absorbing compound residue-containing, as photog. antistatic and antisweating agent)

- IT Photographic films  
 (antistatic and antisweating, UV-absorbing compound residue-containing polyurethanes or polyureas for)
- IT 117391-87-4P 117391-89-6P 117391-91-0P 117391-93-2P 117391-95-4P  
 117391-97-6P 117391-99-8P 117392-01-5P 117392-03-7P 117392-05-9P  
 117392-07-1P 117433-04-2P 117433-06-4P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation and use of, as photog. antistatic and antisweating agent)
- IT 117392-09-3P 117392-11-7P 117392-13-9P 117392-15-1P  
 117392-17-3P 117392-19-5P 117392-21-9P 117392-23-1P 117392-25-3P  
 117392-27-5P 117392-29-7P 117392-31-1P 117392-33-3P 117392-35-5P  
 117392-37-7P 117397-28-1P 117433-08-6P  
 RL: PREP (Preparation)  
 (preparation of, as photog. antistatic and antisweating agent)
- IT 4485-89-6 7605-30-3 22607-31-4 89115-28-6 117541-80-7  
 117541-81-8 117541-82-9 117541-83-0 117541-84-1  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (reaction of, UV-absorbing agent from, for photog. antistatic and antisweating agent)
- IT 622-15-1 1772-43-6  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (reaction of, intermediate for UV-absorbing agent from, for photog. antistatic and antisweating agent)
- IT 117392-09-3P 117392-11-7P  
 RL: PREP (Preparation)  
 (preparation of, as photog. antistatic and antisweating agent)
- RN 117392-09-3 HCPLUS
- CN 2,4-Pentadienamide, 2-cyano-5-(dihexylamino)-N,N-bis(2-hydroxyethyl)-, polymer with 5-isocyanato-1-(isocyanatomethyl)-1,3,3-trimethylcyclohexane (9CI) (CA INDEX NAME)

CM 1

CRN 117392-08-2

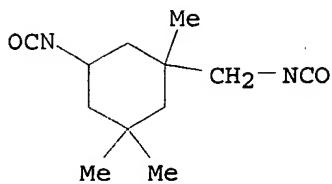
CMF C22 H39 N3 O3



CM 2

CRN 4098-71-9

CMF C12 H18 N2 O2



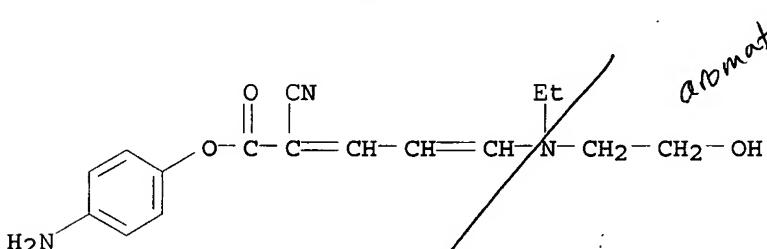
RN 117392-11-7 HCAPLUS

CN 2,4-Pentadienoic acid, 2-cyano-5-[ethyl(2-hydroxyethyl)amino]-, 4-aminophenyl ester, polymer with 5-isocyanato-1-(isocyanatomethyl)-1,3,3-trimethylcyclohexane (9CI) (CA INDEX NAME)

CM 1

CRN 117392-10-6

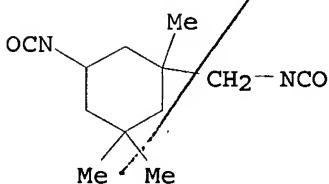
CMF C16 H19 N3 O3



CM 2

CRN 4098-71-9

CMF C12 H18 N2 O2



L14 ANSWER 5 OF 11 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 1988:538931 HCAPLUS

DN 109:138931

TI Migration mechanism of the Onsager's charge-carrier photogeneration

AU Aleksandrova, E. L.; Cherkasov, Yu. A.

CS USSR

SO Optika i Spektroskopiya (1988), 64(5), 1047-55

CODEN: OPSPAM; ISSN: 0030-4034

DT Journal

LA Russian

AB A dependence of quantum yields of charge carrier photogeneration on the spatial and energetic parameters of the polymeric donor-acceptor complexes was established for the series of poly(vinylcarbazole) and its analogs

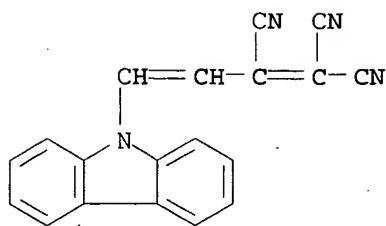
(9-substituted polymeric carbazoles, and vinyl aromatic polymers) with the acceptors chosen from fluorene derivs., intramol. complexes, and tri-component dye complexes. The migration mechanism of the Onsager photogeneration for the the donor-acceptor complexes was developed, based on the intramol. migration of the bound charge. A good agreement between theor. calculated and exptl. dependencies was obtained. The possibility of increasing photosensitivity of the electrophotog. and photothermoplastic materials choosing the proper structure of the complex is indicated.

- CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
Section cross-reference(s): 76  
ST charge carrier photogeneration acceptor donor complex; polyvinylcarbazide complex Onsager photogeneration; polymer charge transfer complexes photocond; electrophotog polyvinylcabazide charge transfer complex  
IT Electrophotographic photoconductors  
(charge-transfer complexes as, based on poly(vinylcarbazole), migration mechanism of Onsager charge-carrier photogeneration)  
IT Dyes  
(monomethine, complexes with poly(vinyl carbazole) and thallium and dihydroxybenzene, migration mechanism of Onsager charge-carrier generation in)  
IT Photoconductivity and Photoconduction  
(of poly(vinylcarbazole) charge-transfer complexes, migration mechanism in)  
IT Charge-transfer complexes  
RL: USES (Uses)  
(polymeric, of poly(vinylcarbazole) and its analogs, migration mechanism of Onsager charge-carrier photogeneration in)  
IT 108-46-3DP, Resorcin, complexes with poly(vinylcarbazole) and thallium and dyes 120-80-9DP, Catechol, complexes with poly(vinylcarbazole) and thallium and dyes 123-31-9DP, Hydroquinone, complexes with poly(vinylcarbazole) and thallium and dyes 7440-28-0DP, Thallium, complexes with poly(vinylcarbazole), dihydroxybenzenes, and dyes 25067-59-8DP, Poly(vinyl carbazole), complexes with thallium, dihydroxybenzenes, and dyes 36201-46-4P 39613-12-2P 109181-00-2P  
**116462-24-9P 116462-25-0P 116462-27-2P 116462-28-3P**  
**116463-99-1P 116464-01-8P 116483-06-8P 116514-33-1P**  
116559-55-8P 116559-56-9P  
RL: PREP (Preparation)  
(photogeneration of charge carriers in, Onsager, migration mechanism of)  
IT **116462-24-9P 116462-28-3P 116463-99-1P**  
**116483-06-8P**  
RL: PREP (Preparation)  
(photogeneration of charge carriers in, Onsager, migration mechanism of)  
RN 116462-24-9 HCAPLUS  
CN 1,3-Butadiene-1,1,2-tricarbonitrile, 4-(9H-carbazol-9-yl)-, compd. with 9-ethenyl-9H-carbazole homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 31317-52-9

CMF C19 H10 N4

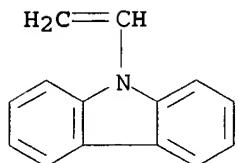


CM 2

CRN 25067-59-8  
CMF (C<sub>14</sub> H<sub>11</sub> N)<sub>x</sub>  
CCI PMS

CM 3

CRN 1484-13-5  
CMF C<sub>14</sub> H<sub>11</sub> N

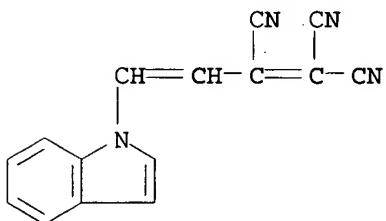


RN 116462-28-3 HCAPLUS

CN 1,3-Butadiene-1,1,2-tricarbonitrile, 4-(1H-indol-1-yl)-, compd. with 9-ethenyl-9H-carbazole homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 87244-09-5  
CMF C<sub>15</sub> H<sub>8</sub> N<sub>4</sub>

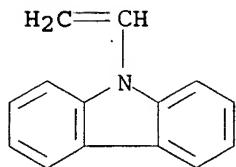


CM 2

CRN 25067-59-8  
CMF (C<sub>14</sub> H<sub>11</sub> N)<sub>x</sub>  
CCI PMS

CM 3

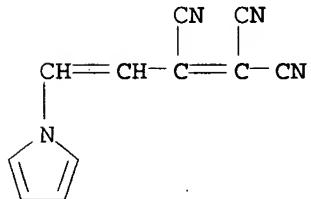
CRN 1484-13-5  
CMF C14 H11 N



RN 116463-99-1 HCPLUS  
CN 1,3-Butadiene-1,1,2-tricarbonitrile, 4-(phenyl-1H-pyrrol-1-yl)-, compd.  
with 9-ethenyl-9H-carbazole homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 116463-98-0  
CMF C17 H10 N4  
CCI IDS



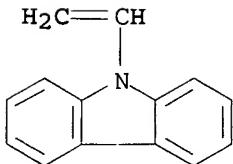
D1—Ph

CM 2

CRN 25067-59-8  
CMF (C14 H11 N)x  
CCI PMS

CM 3

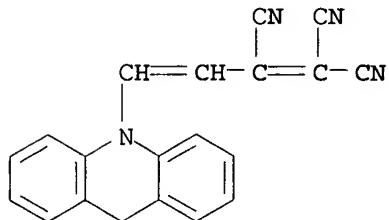
CRN 1484-13-5  
CMF C14 H11 N



RN 116483-06-8 HCPLUS  
CN 1,3-Butadiene-1,1,2-tricarbonitrile, 4-(10(9H)-acridinyl)-, compd. with

9-ethenyl-9H-carbazole homopolymer (9CI) (CA INDEX NAME)

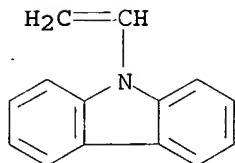
CM 1

CRN 116483-05-7  
CMF C20 H12 N4

CM 2

CRN 25067-59-8  
CMF (C14 H11 N)x  
CCI PMS

CM 3

CRN 1484-13-5  
CMF C14 H11 N

L14 ANSWER 6 OF 11 HCAPLUS COPYRIGHT 2005 ACS on STN  
 AN 1988:501708 HCAPLUS  
 DN 109:101708  
 TI Silver halide photographic emulsion for radiographic film  
 IN Delfino, Gerolamo; Debenedetti, Milena  
 PA Minnesota Mining and Manufacturing Co., USA  
 SO Eur. Pat. Appl., 22 pp.

CODEN: EPXXDW

DT Patent

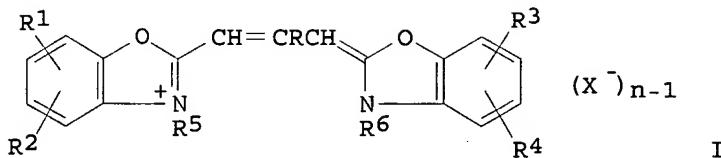
LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 244718	A2	19871111	EP 1987-106045	19870424
	EP 244718	A3	19890308		
	EP 244718	B1	19930127		
	R: BE, DE, FR, GB, NL				
	US 4777125	A	19881011	US 1987-45620	19870501
	AU 8772555	A1	19871112	AU 1987-72555	19870506
	AU 595029	B2	19900322		

*closed  
9/11  
instead*

CA 1293638	A1	19911231	CA 1987-536566	19870507
JP 63024238	A2	19880201	JP 1987-112243	19870508
JP 2529688	B2	19960828		
PRAI IT 1986-20369	A	19860508		
GI				



AB A radiog. film comprises a transparent support coated on  $\geq 1$  side with  $\geq 1$  Ag halide photog. emulsion containing cubic Ag halide grains having a J-band spectral sensitizing dye having the general formula I ( $R = H$ , alkyl;  $R1-R4 = H$ , halogen, OH, alkoxy, amino, acylamino, acyloxy, alkoxy carbonyl, alkyl, alkoxy carbonyl amino, aryl,  $R1$  and  $R2$  or  $R3$  and  $R4$  together may form a benzene nucleus;  $R5$ ,  $R6 = alkyl$ , hydroxyalkyl, acetoxyalkyl, alkoxyalkyl, carboxyl-containing alkyl, sulfo-containing alkyl, benzyl;  $X^- = acid anion$ ;  $n = 1.2$ ) adsorbed on the surface thereof in a quantity substantially higher than that amount which optimally sensitizes the Ag halide grains and exhibits improved image quality and reduced residual stains. Thus, a cubic-grain Ag(Br,I) emulsion (2.3% I, 0.65  $\mu m$  average grain diameter, 1:1 average aspect ratio) spectrally sensitized

with

5,5'-dichloro-9-ethyl-3,3'-bis(3-sulfopropyl) oxacarboxyamine hydroxide triethylammonium salt and KI was coated on a poly(ethylene terephthalate) transparent film support, overcoated with a gelatin layer, contacted with a 3M Trimax 8 intensifying screen, exposed through a laminated Al step wedge to x-rays, and processed to give a speed (relative log E) of 2.57. The image quality of the processed film was excellent.

IC ICM G03C001-02

CC 74-2 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

ST silver halide emulsion radiog film; oxacarbocyanine dye sensitizer radiog film; cubic grain silver halide radiog

IT Radiography

(photosensitive emulsions containing cubic silver halide grains adsorbed with J-band oxacarbocyanine dyes)

IT Photographic sensitizers

(J-band, oxacarbocyanine dyes as, for cubic silver halide grains for radiog. materials)

IT Radiography

(emulsions, containing cubic silver halide grains adsorbed with J-band oxacarbocyanine dyes)

IT Photographic emulsions

(radiog., containing cubic silver halide grains adsorbed with J-band oxacarbocyanine dyes)

IT 115927-31-6

RL: USES (Uses)

(photosensitive emulsions containing cubic silver halide grains sensitized with J-band oxacarbocyanine dye and, for radiog. materials)

IT 39201-42-8

RL: USES (Uses)

(J-band photog. spectral sensitizer, for radiog. emulsions containing cubic silver halide grains)

LEE 10/689482 CN 7/5/05 Page 16

IT 115927-31-6

RL: USES (Uses)

(photosensitive emulsions containing cubic silver halide grains sensitized with J-band oxacarbocyanine dye and, for radiog. materials)

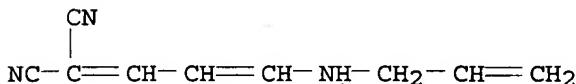
RN 115927-31-6 HCAPLUS

CN 2-Propenamide, polymer with [3-(2-propenylamino)-2-propenylidene]propanedinitrile (9CI) (CA INDEX NAME)

CM 1

CRN 115927-30-5

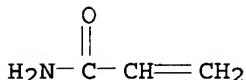
CMF C9 H9 N3



CM 2

CRN 79-06-1

CMF C3 H5 N O



L14 ANSWER 7 OF 11 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 1987:58849 HCAPLUS

DN 106:58849

TI Polymeric photographic light stabilizers

IN Helling, Guenter; Sobel, Johannes; Langen, Hans

PA Agfa-Gevaert A.-G., Fed. Rep. Ger.

SO Ger. Offen., 44 pp.

CODEN: GWXXBX

DT Patent

LA German

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 3501722	A1	19860724	DE 1985-3501722	19850119
	US 4943519	A	19900724	US 1986-816746	19860107
	EP 189059	A2	19860730	EP 1986-100207	19860109
	EP 189059	A3	19891129		
	EP 189059	B1	19920311		

R: BE, DE, FR, GB

JP 61169831 A2 19860731 JP 1986-4422

19860114

PRAI DE 1985-3501722 A 19850119

AB Polymer photog. light stabilizers having the formula (CR<sub>1</sub>R<sub>2</sub>CR<sub>3</sub>ZNR<sub>4</sub>COZ<sub>1</sub>R)<sub>n</sub> (R = a stabilizer group or a stabilizer-containing group; R<sub>2</sub>, R<sub>3</sub>, R<sub>4</sub> = H or C<sub>1-4</sub> alkyl; R<sub>1</sub> = H, C<sub>1-4</sub> alkyl, or CO<sub>2</sub>R<sub>2</sub>; Z = a bond or a divalent group; Z<sub>1</sub> = O or NR<sub>4</sub>). Thus, a color photog. film with a UV absorber layer containing a Bu acrylate-3-[N-(methacryloyloxyethylaminocarbonyloxyethyl)-N-methylamino]-2-propenylidenemalononitrile copolymer stabilizer at 0.2 mmol/m<sup>2</sup> was imagewise exposed and color neg. developed to show a blue

KATHLEEN FULLER EIC 1700 REMSON 4B28 571/272-2505

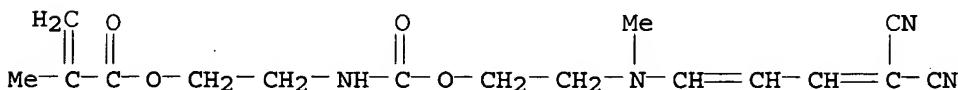
*case*  
*answer 9*  
*instead*

sensitivity of 0.10 lg(Ixt), a Dmin of 0.1, and brown color reproduction as brown vs. 0.07, 0.01, and brown coal reproduction as dirty violet for a control containing an acrylamidodiallylaminooallylidemalononitrile copolymer.

IC ICM G03C001-34  
IC S C09K015-22  
CC 74-2 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
ST polymer photog UV light stabilizer; allylidemalononitrile group polymer photog stabilizer  
IT Photographic stabilizers  
(allylidemalononitrile group-containing polymers as light)  
IT 106447-07-8 106447-08-9  
RL: USES (Uses)  
(photog. light stabilizer)  
IT 106432-12-6P  
RL: RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)  
(preparation and polymerization of)  
IT 30674-80-7  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with (N-methyl-N-hydroxyethylamino)allylidemalononitrile)  
IT 106432-13-7  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with isocyanooethyl methacrylate)  
IT 106447-07-8 106447-08-9  
RL: USES (Uses)  
(photog. light stabilizer)  
RN 106447-07-8 HCPLUS  
CN 2-Propenoic acid, 2-methyl-, 2-[[[2-[(4,4-dicyano-1,3-butadienyl)methylamino]ethoxy]carbonyl]amino]ethyl ester, polymer with methyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

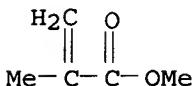
CM 1

CRN 106432-12-6  
CMF C16 H20 N4 O4



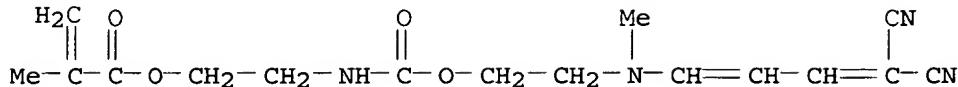
CM 2

CRN 80-62-6  
CMF C5 H8 O2

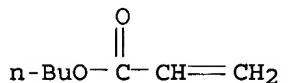


RN 106447-08-9 HCPLUS  
CN 2-Propenoic acid, 2-methyl-, 2-[[[2-[(4,4-dicyano-1,3-butadienyl)methylamino]ethoxy]carbonyl]amino]ethyl ester, polymer with butyl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 106432-12-6  
CMF C16 H20 N4 O4

CM 2

CRN 141-32-2  
CMF C7 H12 O2

L14 ANSWER 8 OF 11 HCPLUS COPYRIGHT 2005 ACS on STN

AN 1987:11154 HCPLUS

DN 106:11154

TI Stabilized photosensitive photographic materials

IN Sobel, Johanne; Helling, Guenter; Langen, Hans

PA Agfa-Gevaert A.-G., Fed. Rep. Ger.

SO Ger. Offen., 36 pp.

CODEN: GWXXBX

DT Patent

LA German

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 3505423	A1	19860821	DE 1985-3505423	19850216
	JP 61189530	A2	19860823	JP 1986-28076	19860213
PRAI	DE 1985-3505423	A	19850216		
AB	Photog. materials having improved light stability contain in $\geq 1$ of the layers a high mol. weight compound with a repeating group that is derived from an aminoallylidene malonic acid derivative. The high mol. weight compound is a				
	polyaddn. or polycondensation product with urethane or ester linkages. Thus, a multilayer color neg. photog. material was coated with a layer containing a 3-(N,N-dihydroxyethylamino)allylidene malononitrile-2,2,4-trimethyl-1,6-diisocyanato hexane polymer 0.2 mmol and gelatin 1 g/m <sup>2</sup> and a layer of gelatin at 1 g/m <sup>2</sup> . The resultant material was then exposed to show a sensitivity decrease of 0.09 lg(I <sub>xt</sub> ) units, a D <sub>min</sub> increase of 0.01, and brown reproduction of a brown image vs. 0.07 lg(I <sub>xt</sub> ) units, 0.01, and a dirty violet reproduction of a brown image for a control containing an acrylamide-diallylaminooallylidene malononitrile copolymer.				
IC	ICM G03C001-06				
CC	74-2 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)				
ST	UV light stabilizer color photog; aminoallylidene malonic acid deriv polymer stabilizer; allylidene malonic acid amino deriv polymer; malonic acid aminoallylidene deriv polymer				
IT	Photographic stabilizers				

(aminoallylidene malonic acid group-containing polymers as UV light)

IT Light stabilizers  
 (UV, aminoallylidene malonic acid group-containing polymers as, for color photog. materials)

IT Photographic films  
 (color, neg., with layers containing aminoallylidene malonic acid group-containing polymer for improved light stability)

IT 105710-28-9 105710-29-0  
 RL: USES (Uses)  
 (UV light stabilizer, for color photog. materials)

IT 107-21-1, reactions  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (reaction of, with (methylhydroxyethyl)aminoallylidene methyl cyanoacetate)

IT 111-42-2, reactions  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (reaction of, with acetanilidoallylidene malononitrile)

IT 61600-13-3  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (reaction of, with diethanolamine)

IT 105744-06-7  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (reaction of, with ethylene glycol)

IT 105744-07-8  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (reaction of, with methylaminoethanol)

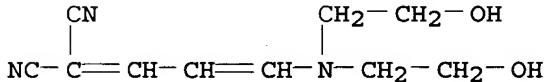
IT 105710-28-9 105710-29-0  
 RL: USES (Uses)  
 (UV light stabilizer, for color photog. materials)

RN 105710-28-9 HCAPLUS

CN Propanedinitrile, [3-[bis(2-hydroxyethyl)amino]-2-propenylidene]-, polymer with 1,6-diisocyanato-2,2,4-trimethylhexane (9CI) (CA INDEX NAME)

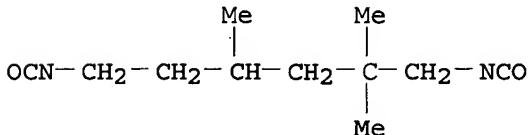
CM 1

CRN 105710-27-8  
 CMF C10 H13 N3 O2



CM 2

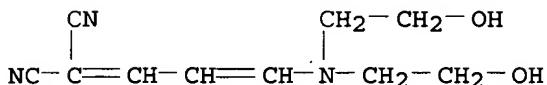
CRN 16938-22-0  
 CMF C11 H18 N2 O2



RN 105710-29-0 HCAPLUS  
 CN Butanedioic acid, polymer with [3-[bis(2-hydroxyethyl)amino]-2-

propenylidene]propanedinitrile (9CI) (CA INDEX NAME)

CM 1

CRN 105710-27-8  
CMF C10 H13 N3 O2

CM 2

CRN 110-15-6  
CMF C4 H6 O4 $\text{HO}_2\text{C}-\text{CH}_2-\text{CH}_2-\text{CO}_2\text{H}$ L14 ANSWER 9 OF 11 HCAPLUS COPYRIGHT 2005 ACS on STN  
AN 1984:129802 HCAPLUS

DN 100:129802

TI Photosensitive photographic silver halide material  
IN Kojima, Tetsuro; Ishimaru, Shingo; Sugimoto, Naohiko; Ikeda, Tadashi  
PA Fuji Photo Film Co., Ltd. , Japan  
SO Ger. Offen., 69 pp.  
CODEN: GWXXBX

DT Patent

LA German

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 3313574	A1	19831020	DE 1983-3313574	19830414
	JP 58178351	A2	19831019	JP 1982-61937	19820414
	JP 01053455	B4	19891114		
	GB 2118315	A1	19831026	GB 1983-8541	19830329
	GB 2118315	B2	19851211		
	US 4443534	A	19840417	US 1983-484331	19830412
PRAI	JP 1982-61937	A	19820414		

AB UV-absorbing (300-400 nm) polymeric latex which prevents UV degradation of Ag halide photog. emulsions and films consists of a homopolymer or a copolymer with a repeating unit of the formula  $\text{CH}_2:\text{CRZ}(Z1)_m(Z2)_nR1$  (I: R = H, C1-4 alkyl, or Cl; Z = CONH, CO<sub>2</sub>, or C<sub>6</sub>H<sub>4</sub>; Z1 = C1-20 alkylene or C6-20 arylene; Z2 = CO<sub>2</sub>, OCO, CONH, NHCO, SO<sub>2</sub>NH, NHSO<sub>2</sub>, SO<sub>2</sub>, or O; m = 0 or 1; n = 0 or 1; and R1 = UV absorbing group derived from a compound of the formula R<sub>2</sub>R<sub>3</sub>NCH:CHCH:CR<sub>4</sub>R<sub>5</sub> where R<sub>2</sub> and R<sub>3</sub> = H, C1-20 alkyl, and C6-20 aryl or together form a ring; R<sub>4</sub> = CN, CO<sub>2</sub>R<sub>6</sub>, CONHR<sub>6</sub>, COR<sub>6</sub>, or SO<sub>2</sub>R<sub>6</sub>; R<sub>5</sub> = CN, CO<sub>2</sub>R<sub>7</sub>, CONHR<sub>7</sub>, COR<sub>7</sub>, or SO<sub>2</sub>R<sub>7</sub>; and R<sub>6</sub> and R<sub>7</sub> = C1-20 alkyl or C6-20 aryl or together form 1,3-dioxocyclohexane, barbituric acid, 1,2-diaza-3,5-dioxocyclopentane, or 2,4-diaza-1-alkoxy-3,5-dioxocyclohexane group). Thus, in the preparation of P-CH<sub>2</sub>:CHC<sub>6</sub>H<sub>4</sub>SO<sub>2</sub>C(CO<sub>2</sub>Et):CHCH:CHNET<sub>2</sub> (I), 3-anilinoacrolein anil and Et (4-vinylphenyl)sulfonylacetate were reacted in acetic anhydride, and the product after removal of the anhydride was reacted with EtOH and Et<sub>2</sub>NH. Then, I was copolymerd. with Me methacrylate to form the polymeric latex

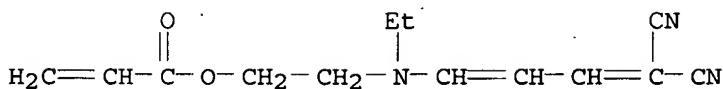
which was dispersed in gelatin. A layer of this dispersion coated on a cellulose triacetate support showed high UV absorption and in a Ag halide colored film gave good color fastness and high image contrast.

IC G03C001-06; G03C001-82; G03C011-10  
CC 74-2 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
ST UV absorbing polymer color photog; film color UV absorber polymer  
IT Photographic stabilizers  
(UV-absorbing polymer latexes as)  
IT Light stabilizers  
(UV, polymer latexes as, for photog. materials)  
IT Photographic films  
(color, containing UV-absorbing polymer latexes for improved stability)  
IT 89208-26-4 89208-29-7 89208-32-2  
RL: USES (Uses)  
(photog. materials containing UV-absorbing latexes of, for improved light stability)  
IT 89208-30-0P 89208-31-1P  
RL: PREP (Preparation)  
(preparation and UV-absorbing properties of latex of, photog. applications in relation to)  
IT 89206-21-3P 89206-22-4P 89206-23-5P  
RL: RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)  
(preparation and polymerization of)  
IT 920-46-7  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with Et (ethylhydroxyethylamino)phenylsulfonylpentadienoate)  
IT 89206-24-6  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with Et phenylsulfonylacetate derivs.)  
IT 89206-27-9  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with acryloyl chloride)  
IT 109-77-3 7605-30-3 89206-25-7  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with anilinoacrolein anil)  
IT 814-68-6  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with ethylhydroxyethylaminoallylidene malononitrile)  
IT 89206-26-8  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with methacryloyl chloride)  
IT 89208-30-0P  
RL: PREP (Preparation)  
(preparation and UV-absorbing properties of latex of, photog. applications in relation to)  
RN 89208-30-0 HCPLUS  
CN 2-Propenoic acid, butyl ester, polymer with 2-[(4,4-dicyano-1,3-butadienyl)ethylamino]ethyl 2-propenoate (9CI) (CA INDEX NAME)

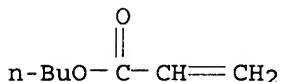
CM 1

CRN 89206-23-5

CMF C13 H15 N3 O2



CM 2

CRN 141-32-2  
CMF C7 H12 O2

L14 ANSWER 10 OF 11 HCPLUS COPYRIGHT 2005 ACS on STN

AN 1981:470998 HCPLUS

DN 95:70998

TI Polymeric ultraviolet absorbers and photographic material including them

IN Beretta, Paolo; Vallarino, Angelo

PA Minnesota Mining and Manufacturing Co., USA

SO Eur. Pat. Appl., 25 pp.

CODEN: EPXXDW

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 27242	A1	19810422	EP 1980-106073	19801007
	EP 27242	B1	19850102		
	R: DE, FR, GB				
	US 4307184	A	19811222	US 1980-189361	19800922
	WO 8101059	A1	19810416	WO 1980-EP111	19801013
	W: JP				
	JP 56501338	T2	19810917	JP 1980-502370	19801013
	JP 01019138	B4	19890410		
PRAI	IT 1979-50552	A	19791012		
	WO 1980-EP111	W	19801013		
AB	External protective UV filter layer for color photog. comprises gelatin and a polymer containing aminoallylidene malononitrile group as a UV absorber. Thus, a cellulose triacetate support was coated with a mixture containing 6% H <sub>2</sub> O-EtOH (70:30) solution of acrylamide-diallyl aminoallylidene malononitrile polymer, and 8% gelatin solution. Absorption maximum of the obtained layer was at λ = 383 nm, and absorption for λ > 400 nm was <10%.				
IC	G03C001-92; C08F026-02				
CC	74-2 (Radiation Chemistry, Photochemistry, and Photographic Processes)				
ST	aminoallylidene malononitrile polymer UV filter photog; color photog UV protective layer				
IT	Photography, color (protective UV absorbing layer for, containing condensation product of diallyl aminoallylidene malononitrile with ethylenically unsatd. monomer)				
IT	78339-25-0 78339-27-2 78339-28-3 78339-29-4 78339-31-8 78570-99-7 78571-00-3				
RL: USES (Uses)	(protective UV filter layer for color photog. containing)				

2 think.

Answer 9  
is better.

LEE 10/689482 CN 7/5/05 Page 23

IT 78339-25-0 78339-27-2 78339-28-3  
78339-29-4 78339-31-8 78570-99-7  
78571-00-3

RL: USES (Uses)

(protective UV filter layer for color photog. containing)

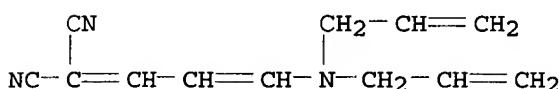
RN 78339-25-0 HCAPLUS

CN 2-Propenamide, polymer with [3-(di-2-propenylamino)-2-propenylidene]propanedinitrile (9CI) (CA INDEX NAME)

CM 1

CRN 78339-24-9

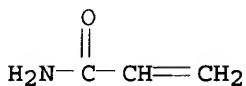
CMF C12 H13 N3



CM 2

CRN 79-06-1

CMF C3 H5 N O



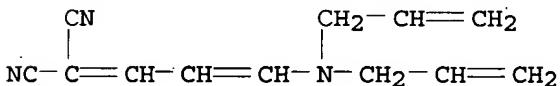
RN 78339-27-2 HCAPLUS

CN 2-Propenoic acid, polymer with [3-(di-2-propenylamino)-2-propenylidene]propanedinitrile (9CI) (CA INDEX NAME)

CM 1

CRN 78339-24-9

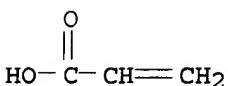
CMF C12 H13 N3



CM 2

CRN 79-10-7

CMF C3 H4 O2



RN 78339-28-3 HCAPLUS

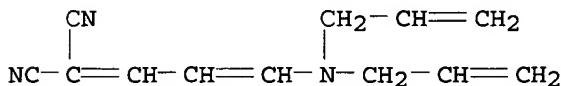
LEE 10/689482 CN 7/5/05 Page 24

CN Propanedinitrile, [3-(di-2-propenylamino)-2-propenylidene]-, polymer with 1-ethenyl-2-pyrrolidinone (9CI) (CA INDEX NAME)

CM 1

CRN 78339-24-9

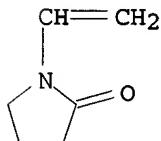
CMF C12 H13 N3



CM 2

CRN 88-12-0

CMF C6 H9 N O



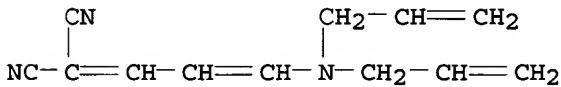
RN 78339-29-4 HCPLUS

CN Propanedinitrile, [3-(di-2-propenylamino)-2-propenylidene]-, polymer with 3-ethenyl-2-oxazolidinone (9CI) (CA INDEX NAME)

CM 1

CRN 78339-24-9

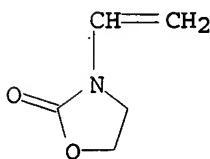
CMF C12 H13 N3



CM 2

CRN 4271-26-5

CMF C5 H7 N O2



RN 78339-31-8 HCPLUS

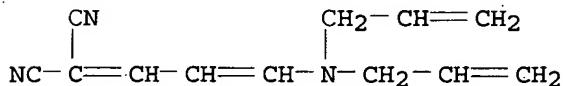
CN 2-Propenamide, polymer with [3-(di-2-propenylamino)-2-

LEE 10/689482 CN 7/5/05 Page 25

propenylidene]propanedinitrile and 2-propen-1-amine hydrochloride (9CI)  
(CA INDEX NAME)

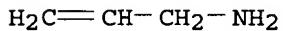
CM 1

CRN 78339-24-9  
CMF C12 H13 N3



CM 2

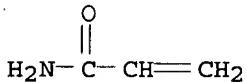
CRN 10017-11-5  
CMF C3 H7 N . Cl H



● HCl

CM 3

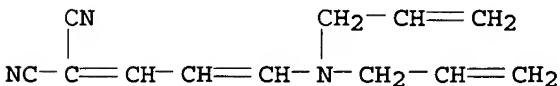
CRN 79-06-1  
CMF C3 H5 N O



RN 78570-99-7 HCAPLUS  
CN 2-Propenoic acid, ethyl ester, polymer with [3-(di-2-propenylamino)-2-propenylidene]propanedinitrile (9CI) (CA INDEX NAME)

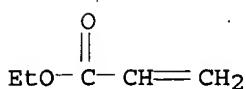
CM 1

CRN 78339-24-9  
CMF C12 H13 N3



CM 2

CRN 140-88-5  
CMF C5 H8 O2



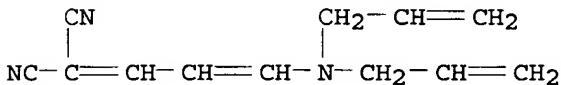
RN 78571-00-3 HCPLUS

CN 2-Propenamide, polymer with [3-(di-2-propenylamino)-2-propenylidene]propanedinitrile and N-2-propenyl-2-propen-1-amine hydrochloride (9CI) (CA INDEX NAME)

CM 1

CRN 78339-24-9

CMF C12 H13 N3



CM 2

CRN 6147-66-6

CMF C6 H11 N . Cl H

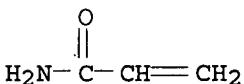


● HCl

CM 3

CRN 79-06-1

CMF C3 H5 N O



L14 ANSWER 11 OF 11 HCPLUS COPYRIGHT 2005 ACS on STN

AN 1981:470997 HCPLUS

DN 95:70997

TI Silver halide photographic emulsions including dye sensitizers and supersensitizing or stabilizing amounts of a polymeric compound

IN Delfino, Gerolamo

PA Minnesota Mining and Manufacturing Co., USA

SO Eur. Pat. Appl., 29 pp.

CODEN: EPXXDW

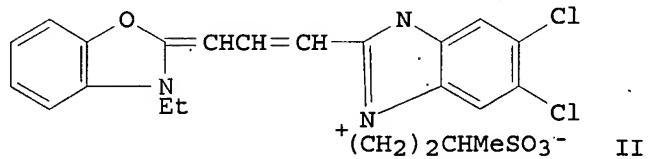
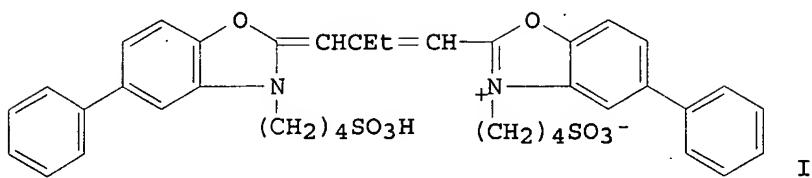
DT Patent

7

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 27259	A1	19810422	EP 1980-106139	19801009
	EP 27259	B1	19831012		
	R: DE, FR, GB				
	JP 56153337	A2	19811127	JP 1980-142843	19801013
	JP 02037571	B4	19900824		
	US 4307183	A	19811222	US 1980-196574	19801014
PRAI	IT 1979-50551	A	19791012		
GI					



AB The sensitivity and stability of a cyanine dye-sensitized photog. emulsion, especially radiog., are increased by including in the emulsion a polymeric product prepared using an aminoallylidene malononitrile. Thus, a radiog. Ag halide emulsion containing spectral sensitizers I 31 and II 83 mg/mol Ag and acrylamide-allylaminooallylidene malononitrile polymer (III) 332 mg/mol Ag showed a  $\Delta$  speed log E value of +0.09 vs. 0.0 for a III-free control.

IC G03C001-28

CC 74-2 (Radiation Chemistry, Photochemistry, and Photographic Processes)  
Section cross-reference(s): 71

ST supersensitization polymer photog radiog emulsion

IT Photographic emulsions  
(supersensitization in, aminoallylidene malononitrile-containing polymers in)IT Radiography  
(supersensitization of photog. emulsions for,  
aminoallylidene malononitrile-containing polymers in)IT Photographic sensitizers  
(super-, aminoallylidene malononitrile-containing polymers in conjunction  
with cyanine-dye)

IT 23368-58-3 40703-12-6 78326-95-1

RL: USES (Uses)  
(radiog. silver halide emulsion supersensitization by  
aminoallylidene malononitrile-containing polymer and)

IT 78339-25-0 78339-26-1 78339-27-2

78339-28-3 78339-29-4 78339-30-7

78339-31-8

RL: USES (Uses)

(radiog. silver halide emulsion supersensitization by cyanine dye and)

IT 78339-25-0 78339-26-1 78339-27-2

78339-28-3 78339-29-4 78339-30-7

78339-31-8

RL: USES (Uses)

(radiog. silver halide emulsion supersensitization by cyanine dye and)

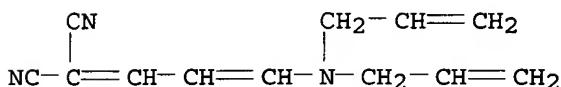
RN 78339-25-0 HCAPLUS

CN 2-Propenamide, polymer with [3-(di-2-propenylamino)-2-propenylidene]propanedinitrile (9CI) (CA INDEX NAME)

CM 1

CRN 78339-24-9

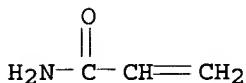
CMF C12 H13 N3



CM 2

CRN 79-06-1

CMF C3 H5 N O



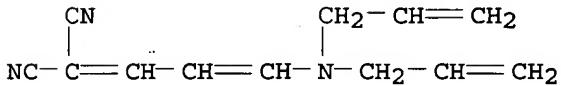
RN 78339-26-1 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, polymer with [3-(di-2-propenylamino)-2-propenylidene]propanedinitrile (9CI) (CA INDEX NAME)

CM 1

CRN 78339-24-9

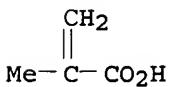
CMF C12 H13 N3



CM 2

CRN 79-41-4

CMF C4 H6 O2

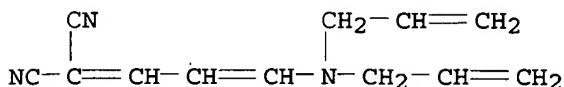


RN 78339-27-2 HCAPLUS

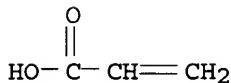
CN 2-Propenoic acid, polymer with [3-(di-2-propenylamino)-2-

propenylidene]propanedinitrile (9CI) (CA INDEX NAME)

CM 1

CRN 78339-24-9  
CMF C12 H13 N3

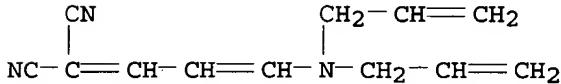
CM 2

CRN 79-10-7  
CMF C3 H4 O2

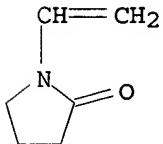
RN 78339-28-3 HCAPLUS

CN Propanedinitrile, [3-(di-2-propenylamino)-2-propenylidene]-, polymer with 1-ethenyl-2-pyrrolidinone (9CI) (CA INDEX NAME)

CM 1

CRN 78339-24-9  
CMF C12 H13 N3

CM 2

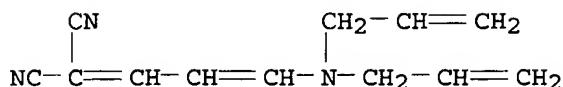
CRN 88-12-0  
CMF C6 H9 N O

RN 78339-29-4 HCAPLUS

CN Propanedinitrile, [3-(di-2-propenylamino)-2-propenylidene]-, polymer with 3-ethenyl-2-oxazolidinone (9CI) (CA INDEX NAME)

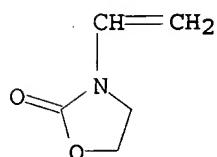
CM 1

CRN 78339-24-9  
CMF C12 H13 N3



CM 2

CRN 4271-26-5  
CMF C5 H7 N O2

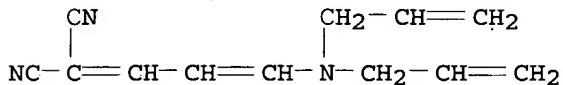


RN 78339-30-7 HCAPLUS

CN 2-Propenamide, 2-methyl-, polymer with [3-(di-2-propenylamino)-2-propenylidene]propanedinitrile (9CI) (CA INDEX NAME)

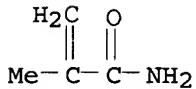
CM 1

CRN 78339-24-9  
CMF C12 H13 N3



CM 2

CRN 79-39-0  
CMF C4 H7 N O

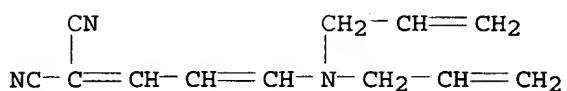


RN 78339-31-8 HCAPLUS

CN 2-Propenamide, polymer with [3-(di-2-propenylamino)-2-propenylidene]propanedinitrile and 2-propen-1-amine hydrochloride (9CI) (CA INDEX NAME)

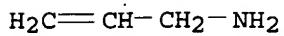
CM 1

CRN 78339-24-9  
CMF C12 H13 N3



CM 2

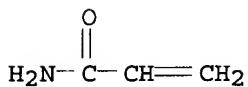
CRN 10017-11-5  
CMF C3 H7 N . Cl H



● HCl

CM 3

CRN 79-06-1  
CMF C3 H5 N O



=>

## SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: Sin J. Lee Examiner #: 76060 Date: 6-16-2005  
 Art Unit: 1752 Phone Number 302-1333 Serial Number: 101689,482  
 Mail Box and Bldg/Room Location: 4D66 Results Format Preferred (circle): PAPER DISK E-MAIL  
(Rem.)

If more than one search is submitted, please prioritize searches in order of need.

\*\*\*\*\*

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: Piz. See B.6 SCIENTIFIC REFERENCE BR  
 Sci & Tech Inf. Ctr.

Inventors (please provide full names): JUN 17 REC'D

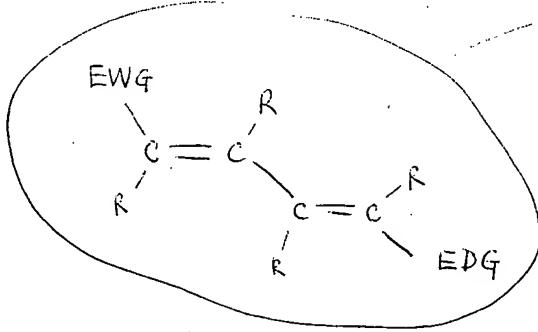
Earliest Priority Filing Date: \_\_\_\_\_ Pat. & T.M. Office

\*For Sequence Searches Only\* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

See 6890

Please search for a polymer which has the following

moiety in the side chain



EWG = non-aromatic, electron withdrawing gp.

e.g. carbonyl ( $\text{C}=\text{O}$ ), cyano ( $\text{C}\equiv\text{N}$ ), imino ( $\text{N}=\text{C}\backslash$ ), carboxylic acid ( $\text{C}(=\text{O})\text{OH}$ ), carboxamido ( $\text{C}(=\text{O})\text{NH}_2$ ), carboxylic ester ( $\text{C}(=\text{O})\text{OR}$ ), carboximido, or Sulfonyl gp.

(don't worry about these R gp's)

EDG = (electron donating gp.)  
 $\text{OCH}_3$   
 $\text{OCH}_2\text{CH}_3$   
 $\text{OCH}_2\text{CH}_2\text{CH}_3$  or  
 $\text{OCH}_2\text{CH}_2\text{CH}_2\text{CH}_3$  (where  
 $\text{R}_1 = \text{H}$ ,  
 alkyl  
 cyclic/acyclic  
 or heteroalkyl)

## STAFF USE ONLY

Type of Search	Vendors and cost where applicable
NA Sequence (#)	STN <input checked="" type="checkbox"/>
AA Sequence (#)	Dialog <input type="checkbox"/>
Structure (#)	Questel/Orbit <input type="checkbox"/>
Bibliographic	Dr. Link <input type="checkbox"/>
Litigation	Lexis/Nexis <input type="checkbox"/>
Fulltext	Sequence Systems <input type="checkbox"/>
Patent Family	WWW/Internet <input type="checkbox"/>
Other	Other (specify) _____

## SEARCH REQUEST FORM

## Scientific and Technical Information Center

Requester's Full Name: Sin J. Lee Examiner #: 76060 Date: 6-16-2005  
 Art Unit: 1752 Phone Number 30 2-1333 Serial Number: 10/684,482  
 Mail Box and Bldg/Room Location: 9B60 Results Format Preferred (circle): PAPER DISK E-MAIL  
 (Rem.)

If more than one search is submitted, please prioritize searches in order of need.

\*\*\*\*\*

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: Plz. Lee B:b.

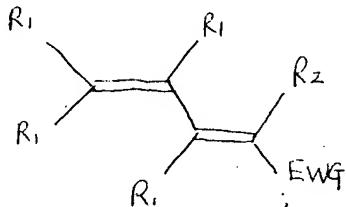
Inventors (please provide full names): \_\_\_\_\_

SCIENTIFIC REFERENCE BR  
Sci & Tech Inf. Ctr.  
JUN 17 REC'D

Earliest Priority Filing Date: \_\_\_\_\_

\*For Sequence Searches Only\* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

- Please Search for a Polymer which has the  
following moiety in the side chain.



EWG = non-aromatic, electron  
withdrawing gp.

Such as  
 carbonyl ( $\text{C}=\text{O}$ ), cyano( $\text{C}\equiv\text{N}$ ),  
 imino ( $\text{N}=\text{C}\backslash$ ),  
 carboxylic acid ( $\text{C}(=\text{O})\text{OH}$ ),  
 carboxylic ester ( $\text{C}(=\text{O})\text{OR}$ )  
 carboxamido ( $\text{C}(=\text{O})\text{NH}_2$ ),  
 carboximido or  
 sulfonyl gp. ( $\text{S}(=\text{O})_2$ )

as long as this  
 diene structure contains  
 EWG gp, it is fine.

<b>STAFF USE ONLY</b>	
Type of Search	Vendors and cost where applicable
Searcher: <u>K. Fallin</u>	NA Sequence (#) <u>STN</u>
Searcher Phone #:	AA Sequence (#) <u>Dialog</u>
Searcher Location: <u>2</u>	Structure (#) <u>Questel/Orbit</u>
Date Searcher Picked Up: <u>7/5/05</u>	Bibliographic <u>Dr. Link</u>
Date Completed: <u>7/5/05</u>	Litigation <u>Lexis/Nexis</u>
Searcher Prep & Review Time: <u>30</u>	Fulltext <u>Sequence Systems</u>
Clerical Prep Time: <u></u>	Patent Family <u>WWW/Internet</u>
Online Time: <u>30</u>	Other (specify) <u></u>

LEE 10/689482 7/5/05 Page 1

=> file reg  
FILE 'REGISTRY' ENTERED AT 09:33:38 ON 05 JUL 2005  
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.  
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Property values tagged with IC are from the ZIC/VINITI data file provided by InfoChem.

STRUCTURE FILE UPDATES: 4 JUL 2005 HIGHEST RN 853727-85-2  
DICTIONARY FILE UPDATES: 4 JUL 2005 HIGHEST RN 853727-85-2

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH JANUARY 18, 2005

Please note that search-term pricing does apply when conducting SmartSELECT searches.

\*\*\*\*\*  
\* \*  
\* The CA roles and document type information have been removed from \*  
\* the IDE default display format and the ED field has been added, \*  
\* effective March 20, 2005. A new display format, IDERL, is now \*  
\* available and contains the CA role and document type information. \*  
\*  
\*\*\*\*\*

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. For more information enter HELP PROP at an arrow prompt in the file or refer to the file summary sheet on the web at:  
<http://www.cas.org/ONLINE/DBSS/registryss.html>

=> file hcaplu  
FILE 'HCAPLUS' ENTERED AT 09:33:43 ON 05 JUL 2005  
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FILE COVERS 1907 - 5 Jul 2005 VOL 143 ISS 2  
FILE LAST UPDATED: 4 Jul 2005 (20050704/ED)

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This file contains CAS Registry Numbers for easy and accurate substance identification.

LEE 10/689482 7/5/05 Page 2

=> d que  
L1 SCR 2043  
L2 STR  
  
O~~S~~O  
8 @9 10

C~~O C~~xx~~ C\*x C==C\*x G1  
@4 5 12 11 1 2 3

C~~xx~~ N  
@6 @7

VAR G1=4/6/7/9  
NODE ATTRIBUTES:  
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NSPEC IS RC AT 2  
NSPEC IS RC AT 4  
NSPEC IS RC AT 6  
NSPEC IS RC AT 7  
NSPEC IS RC AT 9  
NSPEC IS RC AT 11  
NSPEC IS RC AT 12  
CONNECT IS E1 RC AT 5  
DEFAULT MLEVEL IS ATOM.  
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:  
RING(S) ARE ISOLATED OR EMBEDDED  
NUMBER OF NODES IS 12

STEREO ATTRIBUTES: NONE  
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L11 STR

13  
CN  
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N~~C~~xx~~ C\*x C==C\*x G1  
14 12 11 1 2 3

VAR G1=4/6/7/9  
NODE ATTRIBUTES:  
NSPEC IS RC AT 1  
NSPEC IS RC AT 2  
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NSPEC IS RC AT 14

CONNECT IS E1 RC AT 5  
 DEFAULT MLEVEL IS ATOM  
 DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:  
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 NUMBER OF NODES IS 14

STEREO ATTRIBUTES: NONE

L13 24 SEA FILE=REGISTRY SUB=L3 SSS FUL L11  
 L15 3764 SEA FILE=REGISTRY ABB=ON L3 NOT L13  
 L18 1967 SEA FILE=REGISTRY ABB=ON L15 NOT 46.150.18/RID  
 L19 1433 SEA FILE=HCAPLUS ABB=ON L18  
 L21 21 SEA FILE=HCAPLUS ABB=ON L19 AND CHROMOPHOR?

=> d 121 bib abs ind hitstr 1-21

L21 ANSWER 1 OF 21 HCAPLUS COPYRIGHT 2005 ACS on STN  
 AN 2005:239208 HCAPLUS  
 DN 142:311998  
 TI Assaying transferase activity by using an artificial, multifunctional substrate comprising a small-molecule component linked to biopolymer-substrate-mimetic component  
 IN Gellibolian, Robert; Rouhani, Riaz  
 PA USA  
 SO PCT Int. Appl., 66 pp.  
 CODEN: PIXXD2  
 DT Patent  
 LA English

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005024380	A2	20050317	WO 2004-US29004	20040903
WO 2005024380	A3	20050526		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				

PRAI US 2003-499863P P 20030903

OS MARPAT 142:311998

AB Embodiments of the present invention are directed to sensitive, specific, and com. feasible assays for transferase activity. Various embodiments of the present invention include artificial, multifunctional substrates specific for particular transferases that are chemically altered by the transferases to produce easily detectable, modified, multifunctional substrates. In one class of embodiments, the artificial, multifunctional substrate comprises a small-mol.-substrate component, or small-mol.-substrate-analog component, linked by a linking component to a biopolymer-substrate-mimetic or biopolymer-substrate-analog component. At least two, generally well-separated reporter moieties are included in the artificial, multifunctional substrate. The transferase, for which the artificial, multifunctional substrate is designed to serve as an assay

reagent, catalyzes a generally covalent modification of the artificial, multifunctional substrate to produce a modified, artificial, multifunctional substrate reaction product in which the two reporter moieties are closely positioned to one another. When closely positioned to one another, the reporter moieties are detectable by one of various instrumental techniques. The artificial, multifunctional substrates for assaying protein kinase A, PCAF histone acetyltransferase, and protein arginine methyltransferase PRMT-1 are prepared

IC ICM G01N

CC 7-1 (Enzymes)

ST transferase detn small mol biopolymer mimetic linker substrate

IT Functional groups

(Diels-Adler, linker containing; transferase determination using artificial, multifunctional substrate comprising small-mol. component linked to biopolymer-substrate-mimetic component)

IT Enzyme functional sites

(active; transferase determination using artificial, multifunctional substrate comprising small-mol. component linked to biopolymer-substrate-mimetic component)

IT Functional groups

(alc., linker containing; transferase determination using artificial, multifunctional substrate comprising small-mol. component linked to biopolymer-substrate-mimetic component)

IT Functional groups

(alkoxycarbonyl groups, linker containing; transferase determination using artificial, multifunctional substrate comprising small-mol. component linked to biopolymer-substrate-mimetic component)

IT Functional groups

(amide, linker containing; transferase determination using artificial, multifunctional substrate comprising small-mol. component linked to biopolymer-substrate-mimetic component)

IT DNA

Glycoproteins

Lipids, uses

Polysaccharides, uses

Proteins

RNA

RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)  
(biopolymer substrate; transferase determination using artificial, multifunctional substrate comprising small-mol. component linked to biopolymer-substrate-mimetic component)

IT Peptide library

(biopolymer-substrate-mimetic; transferase determination using artificial, multifunctional substrate comprising small-mol. component linked to biopolymer-substrate-mimetic component)

IT Functional groups

(carbamate, linker containing; transferase determination using artificial, multifunctional substrate comprising small-mol. component linked to biopolymer-substrate-mimetic component)

IT Functional groups

(carbonate, linker containing; transferase determination using artificial, multifunctional substrate comprising small-mol. component linked to biopolymer-substrate-mimetic component)

IT Functional groups

(diene, linker containing; transferase determination using artificial, multifunctional substrate comprising small-mol. component linked to biopolymer-substrate-mimetic component)

IT Functional groups

(ether groups, linker containing; transferase determination using artificial,

multifunctional substrate comprising small-mol. component linked to biopolymer-substrate-mimetic component)

IT Functional groups  
(glycosyl, of small-mol. component; transferase determination using artificial,

multifunctional substrate comprising small-mol. component linked to biopolymer-substrate-mimetic component)

IT Amide group

Amino group

Sulphydryl group  
(linker containing; transferase determination using artificial,

multifunctional substrate comprising small-mol. component linked to biopolymer-substrate-mimetic component)

IT Acetyl group

Alkyl groups

Methyl group

Phosphate group  
(of small-mol. component; transferase determination using artificial,

multifunctional substrate comprising small-mol. component linked to biopolymer-substrate-mimetic component)

IT Chromophores

Fluorescent dyes

Fluorescent substances  
(reporter moiety; transferase determination using artificial,

multifunctional substrate comprising small-mol. component linked to biopolymer-substrate-mimetic component)

IT Nucleoside analogs

Nucleosides, uses  
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)  
(small-mol. component; transferase determination using artificial,

multifunctional substrate comprising small-mol. component linked to biopolymer-substrate-mimetic component)

IT Functional groups  
(sulfate, of small-mol. component; transferase determination using artificial,

multifunctional substrate comprising small-mol. component linked to biopolymer-substrate-mimetic component)

IT Fluorescence resonance energy transfer

Fluorometry

Linking agents

NMR spectroscopy

Spectroscopy  
(transferase determination using artificial, multifunctional substrate comprising small-mol. component linked to biopolymer-substrate-mimetic component)

IT Biopolymers  
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)  
(transferase determination using artificial, multifunctional substrate comprising small-mol. component linked to biopolymer-substrate-mimetic component)

IT Functional groups  
(ubiquinyl, of small-mol. component; transferase determination using artificial, multifunctional substrate comprising small-mol. component linked to biopolymer-substrate-mimetic component)

IT 848085-24-5P  
RL: ARG (Analytical reagent use); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation); USES (Uses)  
(PCAF substrate; transferase determination using artificial, multifunctional

substrate comprising small-mol. component linked to  
biopolymer-substrate-mimetic component)

IT 9054-51-7, Histone acetyltransferase  
RL: ANT (Analyte); ANST (Analytical study)  
(PCAF; transferase determination using artificial, multifunctional substrate  
comprising small-mol. component linked to biopolymer-substrate-mimetic  
component)

IT 848085-23-4P  
RL: ARG (Analytical reagent use); SPN (Synthetic preparation); ANST  
(Analytical study); PREP (Preparation); USES (Uses)  
(PRMT-1 substrate; transferase determination using artificial,  
multifunctional  
substrate comprising small-mol. component linked to  
biopolymer-substrate-mimetic component)

IT 65189-71-1 584554-49-4 697225-73-3 848053-30-5  
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)  
(biopolymer-substrate-mimetic component; transferase determination using  
artificial, multifunctional substrate comprising small-mol. component  
linked to biopolymer-substrate-mimetic component)

IT 407-41-0, Phosphoserine 692-04-6,  $\epsilon$ -Acetyl-L-lysine 1114-81-4,  
Phosphothreonine 1188-07-4, MonoMethyllysine 2259-86-1, Dimethyllysine  
17035-90-4, Methyl arginine 21820-51-9, Phosphotyrosine 34378-59-1  
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)  
(peptide library containing; transferase determination using artificial,  
multifunctional substrate comprising small-mol. component linked to  
biopolymer-substrate-mimetic component)

IT 848053-34-9P  
RL: ARG (Analytical reagent use); SPN (Synthetic preparation); ANST  
(Analytical study); PREP (Preparation); USES (Uses)  
(protein kinase A substrate; transferase determination using artificial,  
multifunctional substrate comprising small-mol. component linked to  
biopolymer-substrate-mimetic component)

IT 6268-49-1, Dabcyl 146368-14-1, Cy5 228272-69-3, Cy3b  
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)  
(reporter moiety; transferase determination using artificial,  
multifunctional  
substrate comprising small-mol. component linked to  
biopolymer-substrate-mimetic component)

IT 56-65-5, 5'-ATP, uses 58-68-4, NADH 65-47-4, 5'-CTP 72-89-9,  
Acetyl-CoA 86-01-1, 5'-GTP 365-08-2, 5'-TTP 482-67-7, PAPS  
524-14-1, Malonyl-CoA 2140-48-9, Butyryl-CoA 29908-03-0,  
S-Adenosyl-L-methionine 35094-46-3, ATP $\gamma$ -S 37589-80-3  
346686-99-5,  $\gamma$ -(2-Aminoethoxy)-ATP 439919-14-9 439919-15-0  
848053-31-6, Iodoacetyl-acylCoA 848053-33-8, S-Carboxy-methyladenosyl-  
homocysteine.  
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)  
(small-mol. component; transferase determination using artificial,  
multifunctional substrate comprising small-mol. component linked to  
biopolymer-substrate-mimetic component)

IT 56-40-6, Glycine, uses 107-95-9,  $\beta$ -Alanine 196936-04-6  
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)  
(substrate containing; transferase determination using artificial,  
multifunctional  
substrate comprising small-mol. component linked to  
biopolymer-substrate-mimetic component)

IT 9026-43-1, Serine protein kinase 9047-61-4, Transferase 80449-02-1,  
Tyrosine protein kinase 88201-45-0, Insulin receptor kinase  
142008-29-5, Protein kinase A 445417-34-5, Protein arginine  
methyltransferase PRMT-1  
RL: ANT (Analyte); ANST (Analytical study)

(transferase determination using artificial, multifunctional substrate comprising small-mol. component linked to biopolymer-substrate-mimetic component)

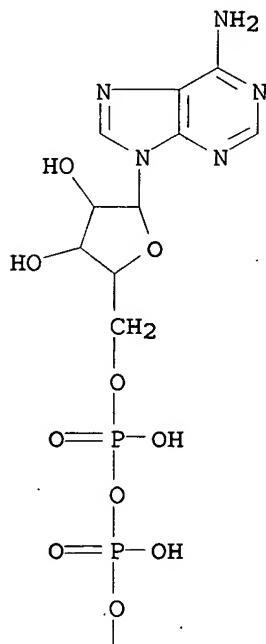
IT 848053-34-9P

RL: ARG (Analytical reagent use); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation); USES (Uses)  
(protein kinase A substrate; transferase determination using artificial, multifunctional substrate comprising small-mol. component linked to biopolymer-substrate-mimetic component)

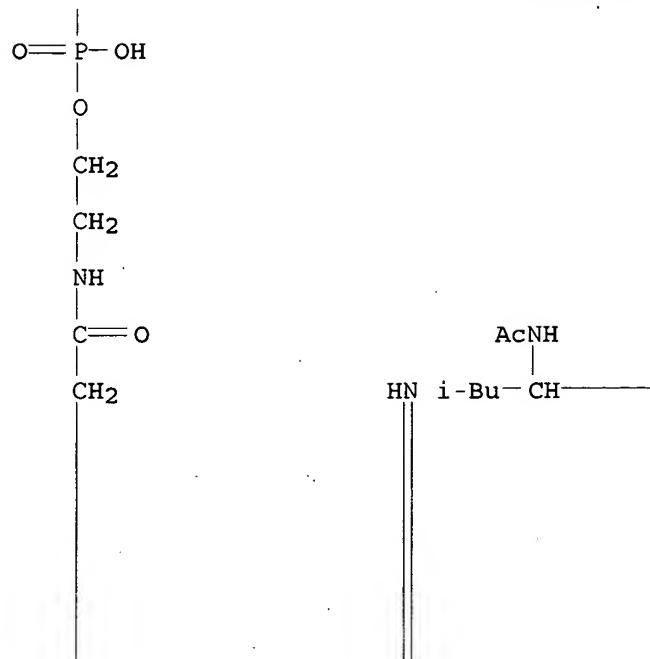
RN 848053-34-9 HCAPLUS

CN Poly(oxy-1,2-ethanediyl),  $\alpha$ -hydro- $\omega$ -hydroxy-, 2-ether with N-acetyl-S-[9-(5'-adenylyloxy)-7,9-dihydroxy-7,9-dioxido-2-oxo-6,8-dioxa-3-aza-7,9-diphosphonan-1-yl]-L-cysteinyl-N6-[6-[2-[5-(1-ethyl-1,3-dihydro-3,3-dimethyl-5-sulfo-2H-indol-2-ylidene)-1,3-pentadienyl]-3,3-dimethyl-5-sulfo-3H-indolio]-1-oxohexyl]-N-(2-hydroxyethyl)-L-lysinamide inner salt, 8'-ether with N-acetyl-L-leucyl-L-arginyl-L-arginyl-L-alanyl-L-seryl-L-leucylglycyl-S-[2-[2-(3-hydroxy-1-oxopropyl)hydrazino]-2-oxoethyl]-L-cysteinyl-N6-[6,7,7a,8a,9,10,16,18-octahydro-16,16,18,18-tetramethyl-14-sulfopyrano[3'',2'':3,4;5'',6'':3',4']dipyrido[1,2-a:1',2'-a']diindol-5-ium-2-yl]acetyl]-L-lysine inner salt (9CI) (CA INDEX NAME)

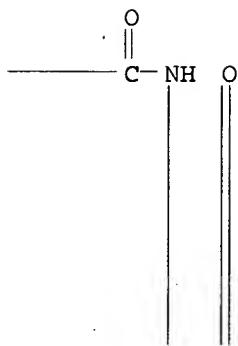
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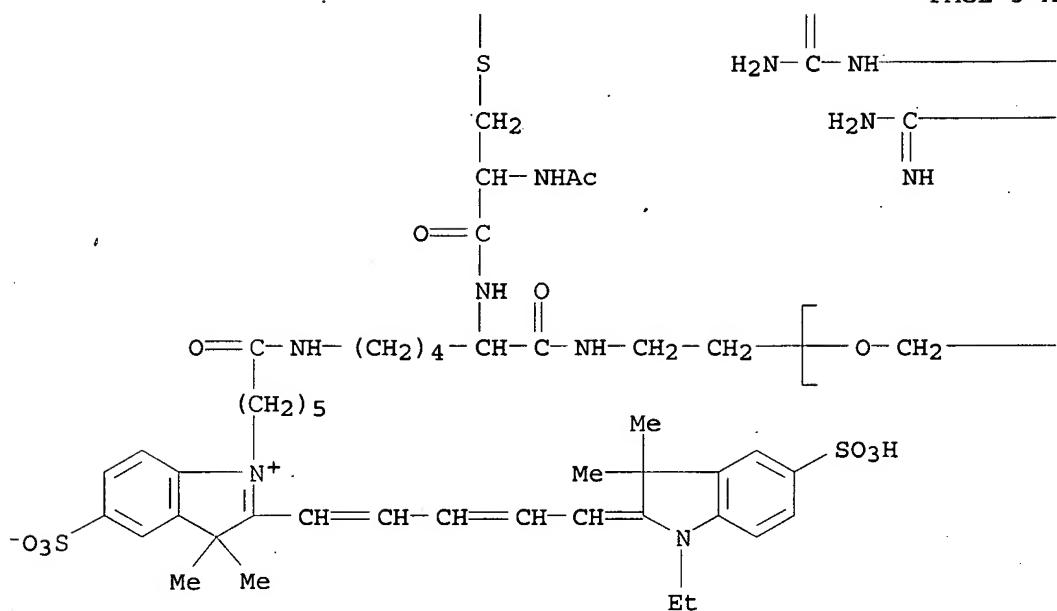
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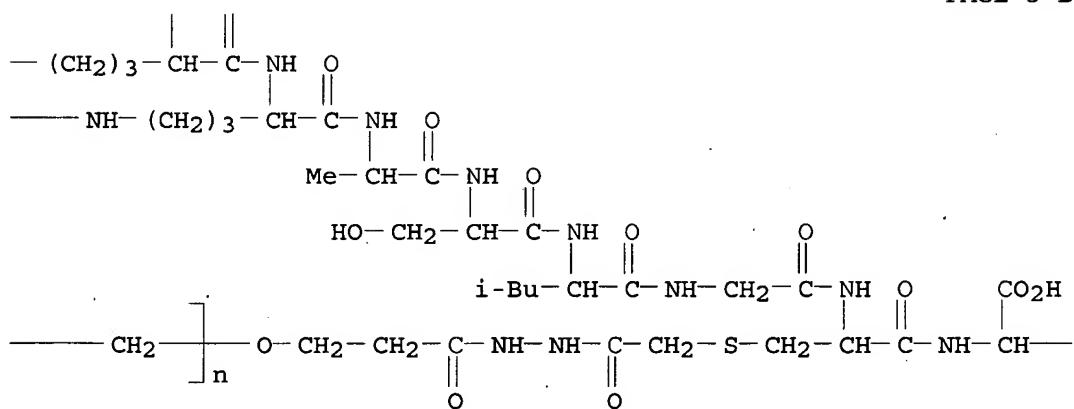
PAGE 2-B



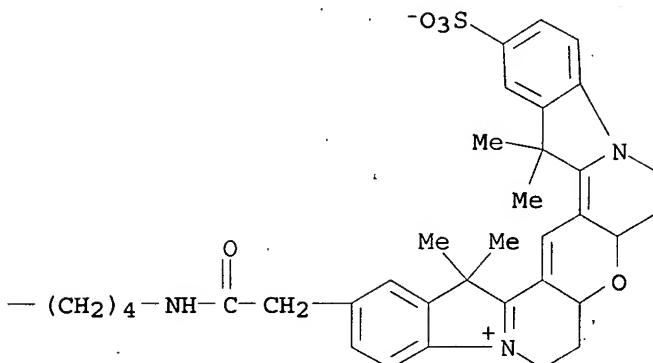
PAGE 3-A



PAGE 3-B



PAGE 3-C



- L21 ANSWER 2 OF 21 HCAPLUS COPYRIGHT 2005 ACS on STN  
 AN 2005:113390 HCAPLUS  
 DN 142:374200
- TI Synthesis and Photophysical Properties of Polymers Containing a Novel Class of Light Emitters
- AU Leclerc, Nicolas; Pasareanu, Marie-Christine; Attias, Andre-Jean
- CS Laboratoire de Chimie des Polymeres, UMR CNRS 7610, Universite Pierre et Marie Curie, Paris, 75252, Fr.
- SO Macromolecules (2005), 38(5), 1531-1534  
 CODEN: MAMOBX; ISSN: 0024-9297
- PB American Chemical Society
- DT Journal
- LA English
- AB Monomers derived from blue-emitting **chromophores** were synthesized. Polymethacrylate- and polyester-based copolymers have been obtained by using free radical polymerization or the Mitsunobu reaction, resp. All the copolymers, incorporating the fluorescent center either as repeating units in main chain or as lateral groups are soluble in organic solvents. Two of the copolymers (P2 and P3) emit blue light whereas three copolymers (P1, P4, and P5) are yellowish emitters. All these results make these polymers potential candidates for the fabrication of PLEDs. Introducing longer alkyl chains into the terephthalic derived comonomers and using controlled radical copolymers. should reduce inter- and intrachains interactions and consequently allow to obtain blue light-emitting polymers.
- CC 35-4 (Chemistry of Synthetic High Polymers)  
 Section cross-reference(s): 73
- ST **chromophore** light emitter polyester prepn photophys property  
 Mitsunobu reaction
- IT Dehydration reaction  
 (Mitsunobu reaction; synthesis and photophys. properties of polymers containing a novel class of light emitters)
- IT Polymerization  
 (co- radical; synthesis and photophys. properties of polymers containing a novel class of light emitters)
- IT **Chromophores**  
 Fluorescence  
 Molecular weight  
 Molecular weight distribution  
 (synthesis and photophys. properties of polymers containing a novel class

of light emitters)

IT 849432-42-4P 849432-43-5P 849432-44-6P 849432-46-8P  
849432-47-9P 849432-48-0P  
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
(synthesis and photophys. properties of polymers containing a novel class  
of light emitters)

IT 109-65-9, 1-Bromobutane 610-92-4, 2,5-Dihydroxyterephthalic acid  
920-46-7, Methacryloyl chloride 7719-09-7, Thionyl chloride  
602279-56-1  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(synthesis and photophys. properties of polymers containing a novel class  
of light emitters)

IT 101254-08-4P 103761-93-9P 849432-41-3P 849432-45-7P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
(Reactant or reagent)  
(synthesis and photophys. properties of polymers containing a novel class  
of light emitters)

IT 849432-42-4P  
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
(synthesis and photophys. properties of polymers containing a novel class  
of light emitters)

RN 849432-42-4 HCPLUS

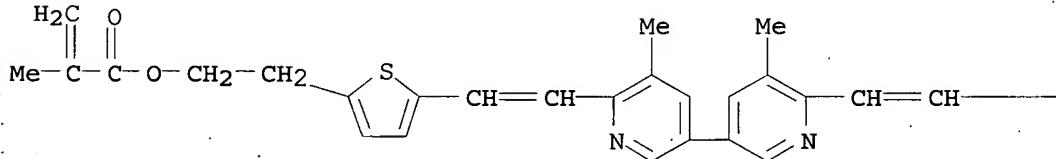
CN 2-Propenoic acid, 2-methyl-, 2-[5-[2-[6'-(2-thienyl)ethenyl]-  
5,5'-dimethyl[3,3'-bipyridin]-6-yl]ethenyl]-2-thienyl ethyl ester, polymer  
with methyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

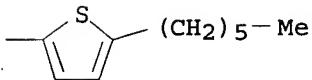
CRN 849432-41-3

CMF C36 H40 N2 O2 S2

PAGE 1-A



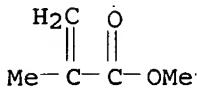
PAGE 1-B



CM 2

CRN 80-62-6

CMF C5 H8 O2



RE.CNT 19 THERE ARE 19 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

- L21 ANSWER 3 OF 21 HCAPLUS COPYRIGHT 2005 ACS on STN  
 AN 2003:986577 HCAPLUS  
 DN 141:277957  
 TI New infrared-sensitive photorefractive polymers and polymer composites  
 AU Schaeirlaekens, Mark; Engels, Christiaan; Hameurlaine, Ahmed; Dehaen, Wim;  
 Samyn, Celest; Persoons, Andre  
 CS Lab. of Chemical and Biological Dynamics, Univ. of Leuven, Heverlee, 3001,  
 Belg.  
 SO Proceedings of SPIE-The International Society for Optical Engineering  
 (2003), 5216(Organic Holographic Materials and Applications), 71-82  
 CODEN: PSISDG; ISSN: 0277-786X  
 PB SPIE-The International Society for Optical Engineering  
 DT Journal  
 LA English  
 AB Composites of N-aryl-carbazoles with photosensitizers, C60 and  
 (2,4,7-trinitro-9-fluorenylidene)malonitrile (TNFDM) were characterized by  
 four-wave mixing and two-beam coupling expts. at 680 and 780 nm. The  
 N-arylated carbazoles are bifunctional chromophores and their  
 relative orientation of dipole moment and polarizability tensor have a  
 significant effect on the figure-of-merit (FOM) of photorefractivity.  
 Studies were performed on mixed inorg./organic nanocomposites to extend the  
 photosensitivity of the samples to longer wavelengths, photocond. at 980  
 nm was studied on PbS colloids/PVK samples. A fully functionalized  
 photorefractive polymer was synthesized and analyzed by four-wave mixing  
 and two beam coupling expts. The polymer showed a strange oscillating  
 behavior in diffraction efficiency and gain.  
 CC 35-4 (Chemistry of Synthetic High Polymers)  
 Section cross-reference(s): 36, 73  
 ST fluorenylidene malonitrile arylcarbazole photosensitizer fullerene  
 composite photorefractivity; cyanomethylene alkyl methacrylate monomer  
 prepn polymn photorefractive polymer prepn  
 IT Photoconductivity  
     (IR; preparation and photocond. and diffraction of IR-sensitive  
     photorefractive polymers and composites with C60 and TNFDM)  
 IT Polarizability  
     (optical; preparation and photocond. and diffraction of IR-sensitive  
     photorefractive polymers and composites with C60 and TNFDM)  
 IT Photochemistry  
     (photosensitizers; preparation and photocond. and diffraction of  
     IR-sensitive photorefractive polymers and composites with C60 and  
     TNFDM)  
 IT Dipole moment  
 Lattice dynamics  
 Optical absorption  
 Photorefractive effect  
 Photorefractive materials  
     (preparation and photocond. and diffraction of IR-sensitive photorefractive  
     polymers and composites with C60 and TNFDM)  
 IT Polymerization  
     (radical; preparation and photocond. and diffraction of IR-sensitive  
     photorefractive polymers and composites with C60 and TNFDM)

IT 42055-20-9P 758722-70-2P 758722-71-3P 758722-72-4P 758722-73-5P  
 758722-75-7P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
 (intermediate; preparation and photocond. and diffraction of IR-sensitive photorefractive polymers and composites with C60 and TNFDM)

IT 758722-76-8P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
 (monomer; preparation and photocond. and diffraction of IR-sensitive photorefractive polymers and composites with C60 and TNFDM)

IT 1172-02-7 57103-18-1 99685-96-8, C60 Fullerene 255829-29-9  
 255829-32-4 431078-36-3 758722-78-0  
 RL: PRP (Properties)  
 (preparation and photocond. and diffraction of IR-sensitive photorefractive polymers and composites with C60 and TNFDM)

IT 758722-77-9P  
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
 (preparation and photocond. and diffraction of IR-sensitive photorefractive polymers and composites with C60 and TNFDM)

IT 108-24-7, Acetic anhydride 288-32-4, Imidazole, reactions 920-46-7,  
 Methacryloyl chloride 4048-33-3, 6-Aminohexanol 4701-17-1 23051-44-7  
 58479-61-1, tert-Butylchlorodiphenylsilane  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (preparation and photocond. and diffraction of IR-sensitive photorefractive polymers and composites with C60 and TNFDM)

IT 758722-77-9P  
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
 (preparation and photocond. and diffraction of IR-sensitive photorefractive polymers and composites with C60 and TNFDM)

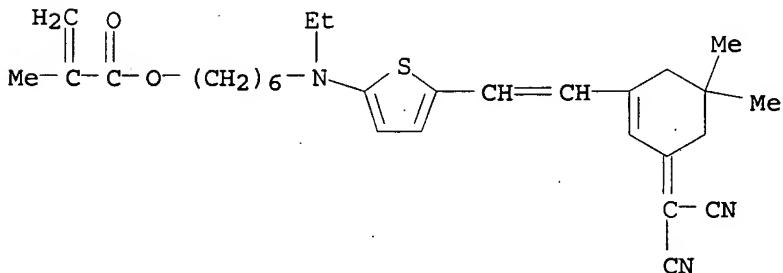
RN 758722-77-9 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 6-(9H-carbazol-9-yl)hexyl ester, polymer with 6-[[5-[2-[3-(dicyanomethylene)-5,5-dimethyl-1-cyclohexen-1-yl]ethenyl]-2-thienyl]ethylamino]hexyl 2-methyl-2-propenoate and dodecyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 758722-76-8

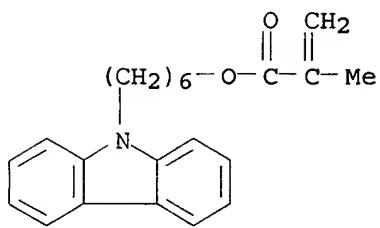
CMF C29 H37 N3 O2 S



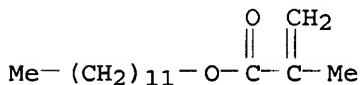
CM 2

CRN 128629-00-5

CMF C22 H25 N O2



CM 3

CRN 142-90-5  
CMF C16 H30 O2RE.CNT 46 THERE ARE 46 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L21. ANSWER 4 OF 21 HCAPLUS COPYRIGHT 2005 ACS on STN  
 AN 2001:772087 HCAPLUS  
 DN 135:341173  
 TI Nucleic acid-coupled colorimetric analyte detectors using self-assembling polydiacetylene liposomes  
 IN Charych, Deborah H.; Jonas, Ulrich  
 PA Regents of the University of California, USA  
 SO U.S., 96 pp., Cont.-in-part of U.S. Ser. No. 461,509.  
 CODEN: USXXAM

DT Patent  
LA English

FAN.CNT 11

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 6306598	B1	20011023	US 1999-337973	19990621
	US 6001556	A	19991214	US 1996-592724	19960126
	EP 1460423	A1	20040922	EP 2004-1595	19960213
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE				
	US 6183772	B1	20010206	US 1996-609312	19960301
	US 6022748	A	20000208	US 1997-920501	19970829
	US 6080423	A	20000627	US 1997-944257	19971006
	US 6180135	B1	20010130	US 1997-944323	19971006
	US 6468759	B1	20021022	US 1998-33557	19980302
	CA 2330937	AA	19991229	CA 1999-2330937	19990622
	JP 2004500006	T2	20040108	JP 2000-556063	19990622
	US 6395561	B1	20020528	US 1999-461509	19991214
	US 6485987	B1	20021126	US 2000-500295	20000208
	US 2001026915	A1	20011004	US 2000-734410	20001211
	US 6660484	B2	20031209		
PRAI	US 1892-976697	A2	19921113		
	US 1993-159927	A2	19931130		
	US 1994-289384	B2	19940811		
	US 1994-289384	B2	19940811		
	US 1994-328237	B2	19941024		

US 1995-389475	B3	19950213
US 1995-389475	B2	19950213
US 1996-592724	A3	19960126
US 1996-609312	A2	19960301
US 1997-38383P	P	19970214
US 1997-39749P	P	19970303
US 1997-50496P	P	19970623
US 1997-920501	A3	19970829
US 1997-944323	A2	19971006
US 1998-23898	A2	19980213
US 1998-33557	A2	19980302
US 1998-90266P	P	19980622
US 1998-103344	A2	19980623
US 1999-461509	A2	19991214
US 2000-500295	A2	20000208
US 1992-982189	B2	19921125
EP 1996-906444	A3	19960213
US 1997-944257	A3	19971006
US 1999-337973	A	19990621
WO 1999-US14029	W	19990622
US 1999-170190P	P	19991210

AB The present invention relates to methods and compns. for the direct detection of analytes and membrane conformational changes through the detection of color changes in biopolymeric materials. In particular, the present invention provides for the direct colorimetric detection of analytes using nucleic acid ligands at surfaces of polydiacetylene liposomes and related mol. layer systems. Liposomes were prepared from a lipid mixture of 95% 5,7-docsoadiynoic acid and 5% 5,7-docosadiynoate succinimide. The liposome solution was photopolymd. with UV light (254 nm) and then reacted with RGGGAATTCGTR (R = OP(OH)(O)OCH<sub>2</sub>(CH<sub>2</sub>OH)CH(CH<sub>2</sub>)<sub>4</sub>NH<sub>2</sub>) to make a probe.

IC C12Q001-68; C07H019-00; G01N033-543; G01N021-00

INCL 435006000

CC 9-5 (Biochemical Methods)

Section cross-reference(s): 3

ST nucleic acid coupled colorimetry polydiacetylene liposome

IT *Neisseria gonorrhoeae*

*Vibrio vulnificus*

(antibodies as ligands in detection of; nucleic acid-coupled colorimetric analyte detectors using self-assembling polydiacetylene liposomes)

IT Amino group

Hydroxyl group

(as head groups in self-assembling monomer; nucleic acid-coupled colorimetric analyte detectors using self-assembling polydiacetylene liposomes)

IT Amino acids, uses

Carboxylic acids, uses

RL: ARG (Analytical reagent use); PRP (Properties); ANST (Analytical study); USES (Uses)

(as head groups in self-assembling monomer; nucleic acid-coupled colorimetric analyte detectors using self-assembling polydiacetylene liposomes)

IT Carbohydrates, uses

RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)

(as ligand in biopolymeric detector; nucleic acid-coupled colorimetric analyte detectors using self-assembling polydiacetylene liposomes)

IT Filters

(biopolymer immobilized on support of; nucleic acid-coupled colorimetric analyte detectors using self-assembling polydiacetylene

liposomes)

IT Fluoropolymers, uses  
Glass, uses  
Mica-group minerals, uses  
RL: ARG (Analytical reagent use); DEV (Device component use); ANST (Analytical study); USES (Uses)  
(biopolymer immobilized on support of; nucleic acid-coupled colorimetric analyte detectors using self-assembling polydiacetylene liposomes)

IT Films  
(biopolymeric; nucleic acid-coupled colorimetric analyte detectors using self-assembling polydiacetylene liposomes)

IT Toxins  
RL: ANT (Analyte); ANST (Analytical study)  
(cholera; nucleic acid-coupled colorimetric analyte detectors using self-assembling polydiacetylene liposomes)

IT Molecular recognition  
(complexes; nucleic acid-coupled colorimetric analyte detectors using self-assembling polydiacetylene liposomes)

IT Blood products  
(components, detection of; nucleic acid-coupled colorimetric analyte detectors using self-assembling polydiacetylene liposomes)

IT Sialic acids  
RL: ARU (Analytical role, unclassified); ANST (Analytical study)  
(conjugates, diacetylene derivs.; nucleic acid-coupled colorimetric analyte detectors using self-assembling polydiacetylene liposomes)

IT Lipids, biological studies  
Nucleic acids  
RL: ARG (Analytical reagent use); BPR (Biological process); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study); PROC (Process); USES (Uses)  
(conjugates; nucleic acid-coupled colorimetric analyte detectors using self-assembling polydiacetylene liposomes)

IT Bacteria (Eubacteria)  
Drugs  
Fungi  
Human immunodeficiency virus 1  
Influenza virus  
Ions  
Parasite  
Pathogen  
Virus  
(detection of; nucleic acid-coupled colorimetric analyte detectors using self-assembling polydiacetylene liposomes)

IT Amino acids, analysis  
RL: ARU (Analytical role, unclassified); ANST (Analytical study)  
(diacetylene derivs.; nucleic acid-coupled colorimetric analyte detectors using self-assembling polydiacetylene liposomes)

IT DNA  
RL: ANT (Analyte); ANST (Analytical study)  
(double-stranded; nucleic acid-coupled colorimetric analyte detectors using self-assembling polydiacetylene liposomes)

IT Toxins  
RL: ANT (Analyte); ANST (Analytical study)  
(enterotoxins, Escherichia; nucleic acid-coupled colorimetric analyte detectors using self-assembling polydiacetylene liposomes)

IT Disease, animal  
(genetic; nucleic acid-coupled colorimetric analyte detectors using self-assembling polydiacetylene liposomes)

IT Functional groups

Molecules  
(hydrophobic; nucleic acid-coupled colorimetric analyte detectors using self-assembling polydiacetylene liposomes)

IT Antibodies  
RL: ARG (Analytical reagent use); DEV (Device component use); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation); USES (Uses)  
(immobilized; nucleic acid-coupled colorimetric analyte detectors using self-assembling polydiacetylene liposomes)

IT Erythrocyte  
(in malarial Plasmodium detection with sialic acid-containing PDA films; nucleic acid-coupled colorimetric analyte detectors using self-assembling polydiacetylene liposomes)

IT Genetic element  
RL: ANT (Analyte); ANST (Analytical study)  
(intron, RNA; nucleic acid-coupled colorimetric analyte detectors using self-assembling polydiacetylene liposomes)

IT Organelle  
(lamella; nucleic acid-coupled colorimetric analyte detectors using self-assembling polydiacetylene liposomes)

IT Aldehydes, properties

Amines, properties

Thiols (organic), properties

RL: PRP (Properties)  
(nucleic acid ligands linked to polymerized self-assembling lipids through; nucleic acid-coupled colorimetric analyte detectors using self-assembling polydiacetylene liposomes)

IT Air analysis

Bacillus subtilis

Biosensors

Blood analysis

Chelating agents

Chromophores

Coils

Colorimetry

Conformation

Dopants

Electron acceptors

Electron donors

Escherichia coli

Functional groups

Helix (conformation)

Liposomes

Membranes, nonbiological

Nucleic acid hybridization

Pharmaceutical analysis

Plasmodium (malarial genus)

Self-assembled monolayers

Surfactants

Temperature

Urine analysis

Vibrio cholerae

pH  
(nucleic acid-coupled colorimetric analyte detectors using self-assembling polydiacetylene liposomes)

IT Agglutinins and Lectins

Antibodies

DNA

Double stranded RNA

Enzymes, analysis

Hormones, animal, analysis  
Nucleic acids  
Receptors  
Transcription factors  
Volatile organic compounds  
mRNA  
rRNA  
tRNA  
RL: ANT (Analyte); ANST (Analytical study)  
(nucleic acid-coupled colorimetric analyte detectors using  
self-assembling polydiacetylene liposomes)

IT Antigens  
Proteins, general, analysis  
RL: ANT (Analyte); ARG (Analytical reagent use); ANST (Analytical study);  
USES (Uses)  
(nucleic acid-coupled colorimetric analyte detectors using  
self-assembling polydiacetylene liposomes)

IT Fibers  
Sialic acids  
Trisaccharides  
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)  
(nucleic acid-coupled colorimetric analyte detectors using  
self-assembling polydiacetylene liposomes)

IT Biopolymers  
Ligands  
RL: ARG (Analytical reagent use); BPR (Biological process); BSU  
(Biological study, unclassified); ANST (Analytical study); BIOL  
(Biological study); PROC (Process); USES (Uses)  
(nucleic acid-coupled colorimetric analyte detectors using  
self-assembling polydiacetylene liposomes)

IT Probes (nucleic acid)  
RL: ARG (Analytical reagent use); SPN (Synthetic preparation); ANST  
(Analytical study); PREP (Preparation); USES (Uses)  
(nucleic acid-coupled colorimetric analyte detectors using  
self-assembling polydiacetylene liposomes)

IT Cardiolipins  
Ceramides  
Cerebrosides  
Lysophosphatidylcholines  
Phosphatidic acids  
Phosphatidylcholines, analysis  
Phosphatidylethanolamines, analysis  
Phosphatidylglycerols  
Phosphatidylinositols  
Phosphatidylserines  
Polyoxyalkylenes, analysis  
Sphingomyelins  
Steroids, analysis  
RL: ARU (Analytical role, unclassified); ANST (Analytical study)  
(nucleic acid-coupled colorimetric analyte detectors using  
self-assembling polydiacetylene liposomes)

IT Immobilization, biochemical  
(of biopolymer on support; nucleic acid-coupled colorimetric analyte  
detectors using self-assembling polydiacetylene liposomes)

IT Dot blot hybridization  
(reverse; nucleic acid-coupled colorimetric analyte detectors using  
self-assembling polydiacetylene liposomes)

IT Lipids, biological studies  
RL: ARG (Analytical reagent use); BPR (Biological process); BSU  
(Biological study, unclassified); ANST (Analytical study); BIOL

(Biological study); PROC (Process); USES (Uses)  
(self-assembling; nucleic acid-coupled colorimetric analyte detectors  
using self-assembling polydiacetylene liposomes)

IT Holders  
(supports, biopolymer immobilized on; nucleic acid-coupled colorimetric  
analyte detectors using self-assembling polydiacetylene liposomes)

IT Oligosaccharides, uses  
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)  
(tetrasaccharides; nucleic acid-coupled colorimetric analyte detectors  
using self-assembling polydiacetylene liposomes)

IT Organelle  
(tubule; nucleic acid-coupled colorimetric analyte detectors using  
self-assembling polydiacetylene liposomes)

IT Detergents  
(zwitterionic; nucleic acid-coupled colorimetric analyte detectors  
using self-assembling polydiacetylene liposomes)

IT 7440-57-5, Gold, uses 7631-86-9, Silica, uses 9002-84-0, Teflon  
9002-88-4, Polyethylene 9003-53-6, Polystyrene 9012-36-6, Sepharose  
9041-35-4, Sephadex G 25 25014-41-9, Polyacrylonitrile  
RL: ARG (Analytical reagent use); DEV (Device component use); ANST  
(Analytical study); USES (Uses)  
(biopolymer immobilized on support of; nucleic acid-coupled  
colorimetric analyte detectors using self-assembling polydiacetylene  
liposomes)

IT 7440-21-3, Silicon, uses  
RL: ARG (Analytical reagent use); DEV (Device component use); ANST  
(Analytical study); USES (Uses)  
(chips, biopolymer immobilized on; nucleic acid-coupled colorimetric  
analyte detectors using self-assembling polydiacetylene liposomes)

IT 9001-51-8, Hexokinase  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(immobilization on PDA and NHS-PDA monolayer slides; nucleic  
acid-coupled colorimetric analyte detectors using self-assembling  
polydiacetylene liposomes)

IT 66990-32-7, 10,12-Pentacosadiynoic acid 138305-24-5,  
5,7-Pentacosadiynoic acid 178560-65-1, 5,7-Docosadiynoic acid  
RL: ARG (Analytical reagent use); PRP (Properties); RCT (Reactant); ANST  
(Analytical study); RACT (Reactant or reagent); USES (Uses)  
(in self-assembling monomer; nucleic acid-coupled colorimetric analyte  
detectors using self-assembling polydiacetylene liposomes)

IT 369375-91-7  
RL: ARG (Analytical reagent use); RCT (Reactant); ANST (Analytical study);  
RACT (Reactant or reagent); USES (Uses)  
(liposomes containing; nucleic acid-coupled colorimetric analyte detectors  
using self-assembling polydiacetylene liposomes)

IT 50-99-7, D-Glucose, analysis 9002-61-3, Chorionic gonadotropin  
9026-81-7, Nuclease 9031-56-5, Ligase 37209-28-2, Bungarotoxin  
120178-12-3, Telomerase 344315-57-7, Polymerase  
RL: ANT (Analyte); ANST (Analytical study)  
(nucleic acid-coupled colorimetric analyte detectors using  
self-assembling polydiacetylene liposomes)

IT 9001-84-7, Phospholipase A2  
RL: ANT (Analyte); ARG (Analytical reagent use); BAC (Biological activity  
or effector, except adverse); BSU (Biological study, unclassified); ANST  
(Analytical study); BIOL (Biological study); USES (Uses)  
(nucleic acid-coupled colorimetric analyte detectors using  
self-assembling polydiacetylene liposomes)

IT 9001-86-9, Phospholipase C 9001-87-0, Phospholipase D  
RL: ANT (Analyte); BAC (Biological activity or effector, except adverse);  
BSU (Biological study, unclassified); ANST (Analytical study); BIOL

- (Biological study)  
(nucleic acid-coupled colorimetric analyte detectors using  
self-assembling polydiacetylene liposomes)
- IT 56-23-5, Carbon tetrachloride, analysis 60-29-7, Diethylether, analysis  
64-17-5, Ethanol, analysis 67-63-0, Isopropanol, analysis 67-66-3,  
Chloroform, analysis 71-36-3, 1-Butanol, analysis 71-43-2, Benzene,  
analysis 107-06-2, Ethylene dichloride, analysis 108-88-3, Toluene,  
analysis 110-82-7, Cyclohexane, analysis 111-27-3, 1-Hexanol, analysis  
111-87-5, 1-Octanol, analysis  
RL: ANT (Analyte); PRP (Properties); ANST (Analytical study)  
(nucleic acid-coupled colorimetric analyte detectors using  
self-assembling polydiacetylene liposomes)
- IT 71-00-1D, L-Histidine, conjugates with amine-coupled PDA, uses  
18656-38-7, Dmpc 37758-47-7, Ganglioside GM1 104443-58-5, Ganglioside  
GT1b  
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)  
(nucleic acid-coupled colorimetric analyte detectors using  
self-assembling polydiacetylene liposomes)
- IT 137300-78-8, MJ33  
RL: ARG (Analytical reagent use); BAC (Biological activity or effector,  
except adverse); BSU (Biological study, unclassified); ANST (Analytical  
study); BIOL (Biological study); USES (Uses)  
(nucleic acid-coupled colorimetric analyte detectors using  
self-assembling polydiacetylene liposomes)
- IT 370159-23-2 370159-24-3  
RL: ARG (Analytical reagent use); PRP (Properties); RCT (Reactant); ANST  
(Analytical study); RACT (Reactant or reagent); USES (Uses)  
(nucleic acid-coupled colorimetric analyte detectors using  
self-assembling polydiacetylene liposomes)
- IT 370649-87-9P  
RL: ARG (Analytical reagent use); PRP (Properties); SPN (Synthetic  
preparation); ANST (Analytical study); PREP (Preparation); USES (Uses)  
(nucleic acid-coupled colorimetric analyte detectors using  
self-assembling polydiacetylene liposomes)
- IT 57-88-5, Cholesterol, analysis 63-42-3D, Lactose, diacetylene derivs.  
83-44-3 123-78-4 151-21-3, Sodium dodecyl sulfate, analysis  
460-12-8D, Diacetylene, derivs. 9036-19-5, Octoxynol 25322-68-3,  
Polyethylene glycol 29557-51-5, Dodecylphosphocholine 34344-66-6  
58846-77-8, Decylglucoside 140708-39-0 369375-82-6  
RL: ARU (Analytical role; unclassified); ANST (Analytical study)  
(nucleic acid-coupled colorimetric analyte detectors using  
self-assembling polydiacetylene liposomes)
- IT 66990-30-5, 10,12-Tricosadiynoic acid  
RL: ARU (Analytical role, unclassified); RCT (Reactant); ANST (Analytical  
study); RACT (Reactant or reagent)  
(nucleic acid-coupled colorimetric analyte detectors using  
self-assembling polydiacetylene liposomes)
- IT 7646-85-7, Zinc chloride, biological studies  
RL: BAC (Biological activity or effector, except adverse); BSU (Biological  
study, unclassified); BIOL (Biological study)  
(nucleic acid-coupled colorimetric analyte detectors using  
self-assembling polydiacetylene liposomes)
- IT 10108-64-2, Cadmium chloride (CdCl<sub>2</sub>)  
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL  
(Biological study); PROC (Process)  
(nucleic acid-coupled colorimetric analyte detectors using  
self-assembling polydiacetylene liposomes)
- IT 146064-06-4P 369375-83-7P 369375-93-9P  
RL: BPR (Biological process); BSU (Biological study, unclassified); RCT  
(Reactant); SPN (Synthetic preparation); BIOL (Biological study); PREP

(Preparation); PROC (Process); RACT (Reactant or reagent)  
 (nucleic acid-coupled colorimetric analyte detectors using  
 self-assembling polydiacetylene liposomes)

IT 125110-42-1D, immobilized and protected 205266-20-2 370159-17-4  
 RL: PRP (Properties); RCT (Reactant); RACT (Reactant or reagent)  
 (nucleic acid-coupled colorimetric analyte detectors using  
 self-assembling polydiacetylene liposomes)

IT 228723-67-9P 368951-38-6P 368951-39-7P 369375-90-6P 369375-99-5P  
 370159-18-5DP, immobilized and protected 370159-19-6P 370159-20-9P  
 370159-21-0P 370159-22-1P 370649-88-0DP, immobilized and protected  
 RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP  
 (Preparation); RACT (Reactant or reagent)  
 (nucleic acid-coupled colorimetric analyte detectors using  
 self-assembling polydiacetylene liposomes)

IT 125110-43-2P 370649-89-1P 370649-90-4P  
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
 (nucleic acid-coupled colorimetric analyte detectors using  
 self-assembling polydiacetylene liposomes)

IT 108-24-7, Acetic anhydride 124-09-4, Hexamethylenediamine, reactions  
 141-43-5, Ethanolamine, reactions 302-01-2, Hydrazine, reactions  
 681-84-5, Tetramethylorthosilicate 929-75-9, Tetraethylene glycol  
 diamine 6066-82-6, N-Hydroxy succinimide 53053-08-0 75495-27-1  
 136766-23-9 146064-10-0 369375-96-2  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (nucleic acid-coupled colorimetric analyte detectors using  
 self-assembling polydiacetylene liposomes)

IT 136766-21-7P 137870-33-8P 146064-07-5P 146064-08-6P 146064-09-7P  
 369375-84-8P 369375-86-0P 369375-88-2P 369375-94-0P 369375-97-3P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
 (Reactant or reagent)  
 (nucleic acid-coupled colorimetric analyte detectors using  
 self-assembling polydiacetylene liposomes)

IT 88373-04-0P 146064-05-3P 369375-89-3P 369375-98-4P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (nucleic acid-coupled colorimetric analyte detectors using  
 self-assembling polydiacetylene liposomes)

IT 151014-05-0, 4: PN: US6306598 SEQID: 1 unclaimed DNA  
 RL: PRP (Properties)  
 (unclaimed nucleotide sequence; nucleic acid-coupled colorimetric  
 analyte detectors using self-assembling polydiacetylene liposomes)

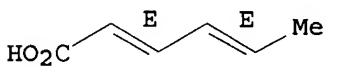
IT 34344-66-6  
 RL: ARU (Analytical role, unclassified); ANST (Analytical study)  
 (nucleic acid-coupled colorimetric analyte detectors using  
 self-assembling polydiacetylene liposomes)

RN 34344-66-6 HCPLUS  
 CN 2,4-Hexadienoic acid, (2E,4E)-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 110-44-1  
CMF C6 H8 O2

Double bond geometry as shown.

RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L21 ANSWER 5 OF 21 HCAPLUS COPYRIGHT 2005 ACS on STN  
 AN 2001:417272 HCAPLUS  
 DN 135:38875  
 TI Non-aromatic **chromophores** for use in polymer anti-reflective coatings  
 IN Shao, Xie; Cox, Robert; Deshpande, Shreeram V.; Flaim, Tony D.; Puligadda, Rama  
 PA Brewer Science, Inc., USA  
 SO PCT Int. Appl., 38 pp.  
 CODEN: PIXXD2

DT Patent  
 LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2001040865	A1	20010607	WO 2000-US25985	20000920
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	EP 1266264	A1	20021218	EP 2000-965290	20000920
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL				
	JP 2003515793	T2	20030507	JP 2001-542270	20000920
	US 2002045125	A1	20020418	US 2001-961751	20010924
	US 2004067441	A1	20040408	US 2003-689482	20031020
PRAI	US 1999-450966	A	19991130		
	WO 2000-US25985	W	20000920		
	US 2001-961751	B1	20010924		

AB An improved light attenuating compound for use in the production of microdevices

is provided. Broadly, the light attenuating compound is non-aromatic and can be directly incorporated (either phys. or chemical) into photolithog. compns. such as bottom anti-reflective coating process materials (BARC) and contact or via hole fill materials. The preferred non-aromatic compds. of the invention are conjugated aliphatic and alicyclic compds. which greatly enhance the plasma etch rate of the composition. Furthermore, the light attenuating compds. are useful for absorbing light at shorter wavelengths. In one embodiment, the inventive compds. can be polymerized so as to serve as both the polymer binder of the composition as well as the light absorbing constituent.

IC ICM G03C001-76  
 ICS G03C001-825; G03C001-815  
 CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
 ST arom **chromophore** polymer anti reflective coating  
 IT Optical materials  
     (antireflective; non-aromatic **chromophores** for use in polymer anti-reflective coatings)  
 IT Antireflective films  
     **Chromophores**  
 Optical instruments  
 Photolithography  
     (non-aromatic **chromophores** for use in polymer anti-reflective

*applicant*



PI US 6051532 A 20000418 US 1998-193342 19981116  
 GB 2348291 A1 20000927 GB 1999-26479 19991110  
 GB 2348291 B2 20021002  
 JP 2000141914 A2 20000523 JP 1999-323848 19991115  
 PRAI US 1998-193342 A 19981116

AB A colorant donor element for thermal-transfer printing comprises a support having thereon a colorant layer having a laser radiation-absorbing material associated therewith, wherein the laser radiation-absorbing material comprises a polymer containing within its repeat units a laser radiation-absorbing **chromophore** comprising an organic moiety having a plurality of conjugated double bonds and an optical absorption of from about 400 nm to about 1200 nm and capable of forming at least two covalent bonds to the polymer backbone.

IC ICM B41M005-035  
 ICS B41M005-38

INCL 503227000

CC 74-7 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

ST polymeric laser absorber colorant donor thermal transfer printing

IT Thermal-transfer printing materials  
 (polymeric laser radiation-absorbing materials for)

IT 4899-82-5 137995-23-4  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (cyan dye donor elements for thermal-transfer printing containing polymeric laser radiation-absorbing materials and)

IT 6761-94-0P 91944-65-9P 263762-22-7P 263762-24-9P 263762-27-2P  
 263762-34-1DP, chloride ion-exchanged, partially 263762-35-2DP, chloride ion-exchanged, partially  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
 (preparation and reaction in synthesis of polymeric laser radiation-absorbing material for colorant donor elements for thermal-transfer printing)

IT 375-22-4, Heptafluorobutyric acid 540-51-2, 2-Bromoethanol 693-13-0,  
 Diisopropylcarbodiimide 822-06-0, 1,6-Diisocyanatohexane 1493-13-6,  
 Trifluoromethanesulfonic acid 1640-39-7, 2,3,3-Trimethyl-3H-indole  
 2359-09-3, 5-tert-Butylisophthalic acid 41532-84-7, 1,1,2-Trimethyl-1H-benz[e]indole 63857-00-1 91944-64-8  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (reaction in synthesis of polymeric laser radiation-absorbing material for colorant donor elements for thermal-transfer printing)

IT 263762-23-8P 263762-25-0P 263762-28-3P  
 263762-29-4P 263762-30-7DP, tosylate ion-exchange, partially  
 263762-31-8DP, tosylate ion-exchange, partially 263762-31-8P  
 263762-32-9DP, tosylate ion-exchange, partially  
 263762-33-0DP, tosylate ion-exchange, partially 263764-19-8P  
 RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (synthesis and use as laser radiation-absorbing material for colorant donor elements for thermal-transfer printing)

IT 63467-19-6  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (yellow dye donor elements for thermal-transfer printing containing polymeric laser radiation-absorbing materials and)

IT 263762-23-8P 263762-25-0P 263762-28-3P  
 263762-29-4P 263762-32-9DP, tosylate ion-exchange,  
 partially 263762-33-0DP, tosylate ion-exchange, partially  
 RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (synthesis and use as laser radiation-absorbing material for colorant

donor elements for thermal-transfer printing)

RN 263762-23-8 HCAPLUS

CN 1H-Benz[e]indolium, 2-[2-[2-chloro-3-[[1,3-dihydro-3-(2-hydroxyethyl)-1,1-dimethyl-2H-benz[e]indol-2-ylidene]ethylidene]-1-cyclohexen-1-yl]ethenyl]-3-(2-hydroxyethyl)-1,1-dimethyl-, salt with trifluoromethanesulfonic acid (1:1), polymer with 1,6-diisocyanatohexane (9CI) (CA INDEX NAME)

CM 1

CRN 822-06-0

CMF C8 H12 N2 O2

$$\text{OCN}-(\text{CH}_2)_6-\text{NCO}$$

CM 2

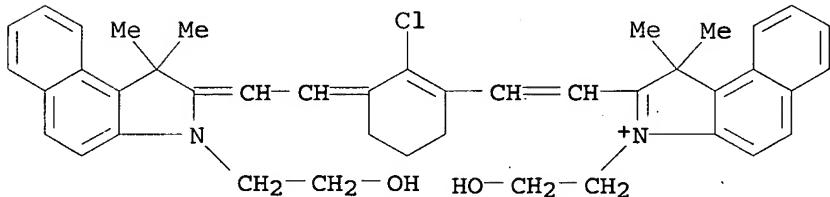
CRN 263762-22-7

CMF C42 H44 Cl N2 O2 . C F3 O3 S

CM 3

CRN 263762-21-6

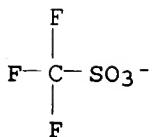
CMF C42 H44 Cl N2 O2



CM 4

CRN 37181-39-8

CMF C F3 O3 S



RN 263762-25-0 HCAPLUS

CN 1H-Benz[e]indolium, 2-[2-[2-chloro-3-[[1,3-dihydro-3-(2-hydroxyethyl)-1,1-dimethyl-2H-benz[e]indol-2-ylidene]ethylidene]-1-cyclohexen-1-yl]ethenyl]-3-(2-hydroxyethyl)-1,1-dimethyl-, salt with heptafluorobutanoic acid (1:1), polymer with 1,6-diisocyanatohexane (9CI) (CA INDEX NAME)

CM 1

**CRN 822-06-0**

LEE' 10/689482 7/5/05 Page 26

CMF C8 H12 N2 O2

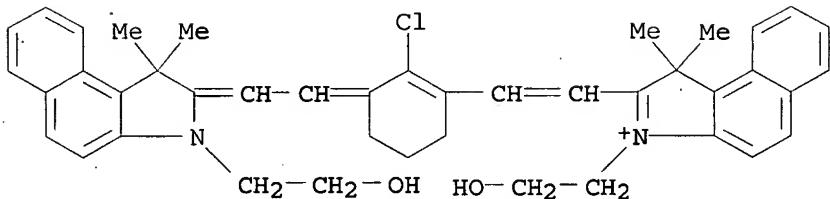
OCN—(CH<sub>2</sub>)<sub>6</sub>—NCO

CM 2

CRN 263762-24-9  
CMF C42 H44 Cl N2 O2 . C4 F7 O2

CM 3

CRN 263762-21-6  
CMF C42 H44 Cl N2 O2



CM 4

CRN 45048-62-2  
CMF C4 F7 O2

F<sub>3</sub>C—CF<sub>2</sub>—CF<sub>2</sub>—CO<sub>2</sub>—

RN 263762-28-3 HCAPLUS  
CN 3H-Indolium, 2-[2-[2-chloro-3-[[1,3-dihydro-1-(2-hydroxyethyl)-3,3-dimethyl-2H-indol-2-ylidene]ethylidene]-1-cyclohexen-1-yl]ethenyl]-1-(2-hydroxyethyl)-3,3-dimethyl-, salt with trifluoromethanesulfonic acid (1:1), polymer with 1,6-diisocyanatohexane (9CI) (CA INDEX NAME)

CM 1

CRN 822-06-0  
CMF C8 H12 N2 O2

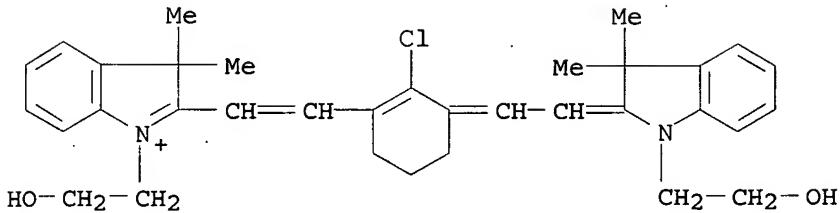
OCN—(CH<sub>2</sub>)<sub>6</sub>—NCO

CM 2

CRN 263762-27-2  
CMF C34 H40 Cl N2 O2 . C F3 O3 S

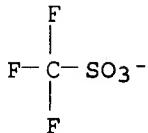
CM 3

CRN 263762-26-1  
CMF C34 H40 Cl N2 O2



CM 4

CRN 37181-39-8  
CMF C F3 O3 S



RN 263762-29-4 HCAPLUS  
CN 3H-Indolium, 2-[2-[2-chloro-3-[[1,3-dihydro-1-(2-hydroxyethyl)-3,3-dimethyl-2H-indol-2-ylidene]ethylidene]-1-cyclohexen-1-yl]ethenyl]-1-(2-hydroxyethyl)-3,3-dimethyl-, salt with trifluoromethanesulfonic acid (1:1), polymer with 1,6-diisocyanatohexane and 2,2'-oxybis[ethanol] (9CI) (CA INDEX NAME)

CM 1

CRN 822-06-0  
CMF C8 H12 N2 O2

OCN-(CH<sub>2</sub>)<sub>6</sub>-NCO

CM 2

CRN 111-46-6  
CMF C4 H10 O3

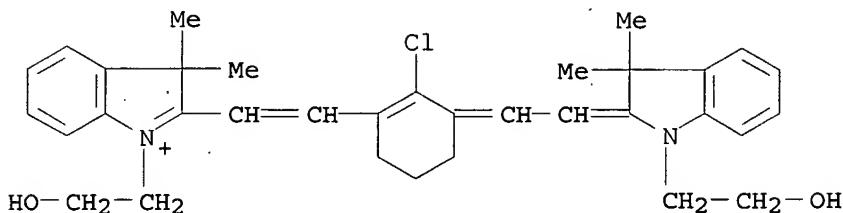
HO-CH<sub>2</sub>-CH<sub>2</sub>-O-CH<sub>2</sub>-CH<sub>2</sub>-OH

CM 3

CRN 263762-27-2  
CMF C34 H40 Cl N2 O2 . C F3 O3 S

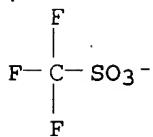
CM 4

CRN 263762-26-1  
CMF C34 H40 Cl N2 O2



CM 5

CRN 37181-39-8  
CMF C F3 O3 S

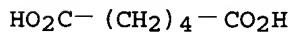


RN 263762-32-9 HCPLUS

CN 3H-Indolium, 2-[2-[2-chloro-3-[[1,3-dihydro-1-(2-hydroxyethyl)-3,3-dimethyl-2H-indol-2-ylidene]ethylidene]-1-cyclohexen-1-yl]ethenyl]-1-(2-hydroxyethyl)-3,3-dimethyl-, salt with trifluoromethanesulfonic acid (1:1), polymer with hexanedioic acid (9CI) (CA INDEX NAME)

CM 1

CRN 124-04-9  
CMF C6 H10 O4

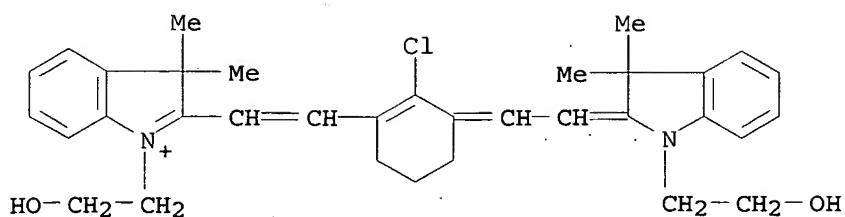


CM 2

CRN 263762-27-2  
CMF C34 H40 Cl N2 O2 . C F3 O3 S

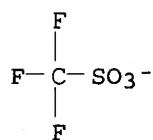
CM 3

CRN 263762-26-1  
CMF C34 H40 Cl N2 O2



CM 4

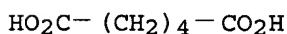
CRN 37181-39-8  
CMF C F3 O3 S



RN 263762-33-0 HCAPLUS  
CN 1H-Benz[e]indolium, 2-[2-[2-chloro-3-[[1,3-dihydro-3-(2-hydroxyethyl)-1,1-dimethyl-2H-benz[e]indol-2-ylidene]ethylidene]-1-cyclohexen-1-yl]ethenyl]-3-(2-hydroxyethyl)-1,1-dimethyl-, salt with trifluoromethanesulfonic acid (1:1), polymer with hexanedioic acid (9CI) (CA INDEX NAME)

CM 1

CRN 124-04-9  
CMF C6 H10 O4

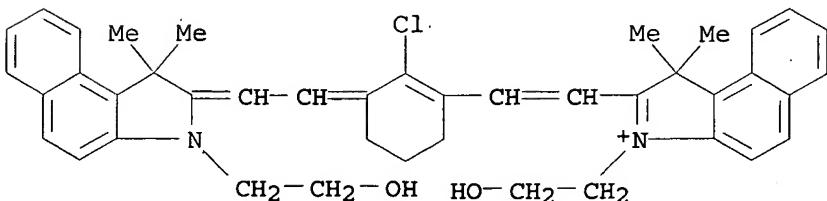


CM 2

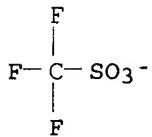
CRN 263762-22-7  
CMF C42 H44 Cl N2 O2 . C F3 O3 S

CM 3

CRN 263762-21-6  
CMF C42 H44 Cl N2 O2



CM 4

CRN 37181-39-8  
CMF C F3 O3 SRE.CNT 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L21 ANSWER 7 OF 21 HCAPLUS COPYRIGHT 2005 ACS on STN  
 AN 2000:164695 HCAPLUS  
 DN 132:185494  
 TI Chromophore-polyoxyalkylene light imaging contrast agents  
 IN Snow, Robert Allen; Henrichs, Paul Mark; Sanderson, William Anthony;  
 Desai, Vinay Chandrakant; Delecki, Daniel Joseph; Hollister, Kenneth  
 Robert; Bacon, Edward Richard  
 PA Nycomed Imaging AS, Norway  
 SO Brit. UK Pat. Appl., 172 pp.  
 CODEN: BAXXDU  
 DT Patent  
 LA English  
 FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI GB 2337523	A1	19991124	GB 1998-9217	19980429
PRAI GB 1998-9217		19980429		
OS MARPAT 132:185494				

AB Physiol. tolerable water-soluble light imaging contrast agents have a mol. weight 500-500,000 and contain at least 2 **chromophores** having delocalized electron systems that are linked to at least 1 polymer surfactant moiety having a mol. weight 60-100,000. These contrast agents are useful in the treatment and diagnosis of disease, e.g. tumor, tissue. Thus, aluminum chlorophthalocyaninetetrasulfonyl chloride polymer with PEG- $\alpha$ , $\omega$ -diamine was prepared from PEG diamine and ClAlPc(SO<sub>2</sub>Cl)<sub>4</sub> in pyridine solution. The biodistribution of the polymer in female immunodeficient mice was determined

IC ICM A61K049-00  
 ICS C08G065-32  
 CC 63-8 (Pharmaceuticals)  
 Section cross-reference(s): 8, 26, 35  
 ST chromophore polyoxyalkylene imaging contrast agent prep;  
 phthalocyanine polyoxyalkylene imaging contrast agent prep  
 IT Laser spectroscopy  
 (Doppler; chromophore-polyoxyalkylene light imaging contrast agents)  
 IT Chromophores  
 Circulation  
 Microscopy  
 Skin  
 Surfactants  
 (chromophore-polyoxyalkylene light imaging contrast agents)

IT Polyoxyalkylenes, biological studies  
Radionuclides, biological studies  
Rare earth metals, biological studies  
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
(chromophore-polyoxyalkylene light imaging contrast agents)

IT Intestine, neoplasm  
(colon, carcinoma; chromophore-polyoxyalkylene light imaging contrast agents)

IT Imaging agents  
(contrast; chromophore-polyoxyalkylene light imaging contrast agents)

IT Microscopy  
(laser; chromophore-polyoxyalkylene light imaging contrast agents)

IT Drug delivery systems  
(liposomes; chromophore-polyoxyalkylene light imaging contrast agents)

IT Drug delivery systems  
(nanoparticles; chromophore-polyoxyalkylene light imaging contrast agents)

IT Tomography  
(optical coherence; chromophore-polyoxyalkylene light imaging contrast agents)

IT 215712-91-7P, NC100448 216451-83-1P 259261-68-2P  
259261-70-6P 259262-81-2P  
RL: BPR (Biological process); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); PROC (Process); USES (Uses)  
(chromophore-polyoxyalkylene light imaging contrast agents)

IT 62-53-3, Benzenamine, reactions 1120-71-4, 1,3-Propanesultone  
15554-15-1, Aluminum phthalocyanine hydroxide 17070-70-1,  
3-Isocyanatopropyltrimethylchlorosilane 17159-79-4, Ethyl  
4-oxocyclohexanecarboxylate 19333-15-4, Silicon phthalocyanine  
dihydroxide 24991-53-5 27072-45-3, Fluorescein isothiocyanate  
41532-84-7, 1,1,2-Trimethyl-1H-benz[e]indole 61010-04-6 62796-29-6  
68665-24-7 68865-60-1, Poly(oxy-1,2-ethanediyl),  $\alpha$ -(2-  
mercaptoethyl)- $\omega$ -(2-mercaptoethoxy)- 106392-12-5 110617-70-4  
169799-14-8, Cy-7 259261-67-1  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(chromophore-polyoxyalkylene light imaging contrast agents)

IT 63666-10-4P 70025-62-6P 74749-02-3P 259261-66-0P 259261-69-3P  
259262-76-5P 259262-79-8P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(chromophore-polyoxyalkylene light imaging contrast agents)

IT 574-93-6DP, Phthalocyanine, derivs.  
RL: SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)  
(chromophore-polyoxyalkylene light imaging contrast agents)

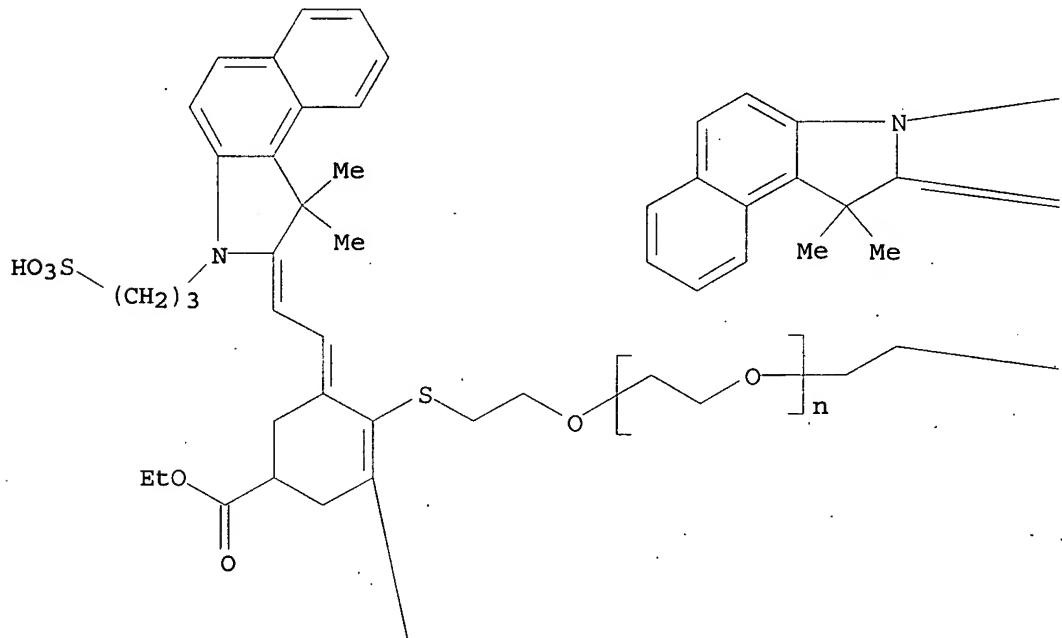
IT 523-42-2, Cyanine 2321-07-5 7440-19-9, Samarium, biological studies  
7440-26-8, Technetium, biological studies 7440-50-8, Copper, biological studies  
9004-95-9, Brij 58 25301-02-4, Tyloxapol  
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
(chromophore-polyoxyalkylene light imaging contrast agents)

IT 215712-91-7P, NC100448  
RL: BPR (Biological process); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); PROC (Process); USES (Uses)  
(chromophore-polyoxyalkylene light imaging contrast agents)

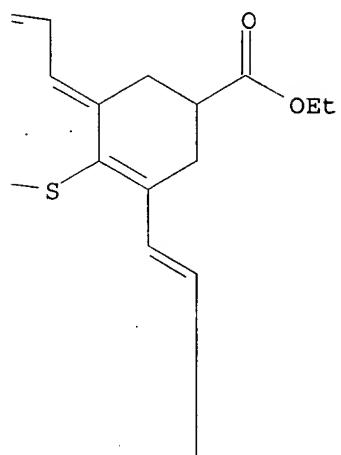
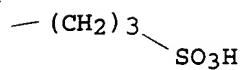
RN 215712-91-7 HCAPLUS

CN Poly(oxy-1,2-ethanediyl),  $\alpha$ -[2-[6-[2-[1,3-dihydro-1,1-dimethyl-3-(3-sulfopropyl)-2H-benz[e]indol-2-ylidene]ethylidene]-2-[2-[1,1-dimethyl-3-(3-sulfopropyl)-1H-benz[e]indolium-2-yl]ethenyl]-4-(ethoxycarbonyl)-1-cyclohexen-1-yl]thioethyl]- $\omega$ -[2-[6-[2-[1,3-dihydro-1,1-dimethyl-3-(3-sulfopropyl)-2H-benz[e]indol-2-ylidene]ethylidene]-2-[2-(1,1-dimethyl-3-(3-sulfopropyl)-1H-benz[e]indolium-2-yl)ethenyl]-4-(ethoxycarbonyl)-1-cyclohexen-1-yl]thio]ethoxy], bis(inner salt), disodium salt (9CI) (CA INDEX NAME)

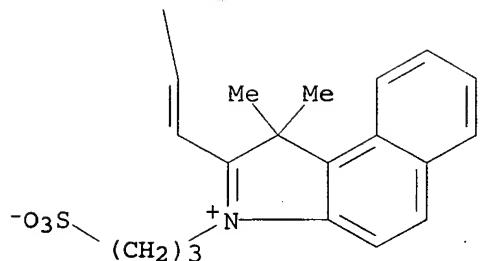
PAGE 1-A



PAGE 1-B

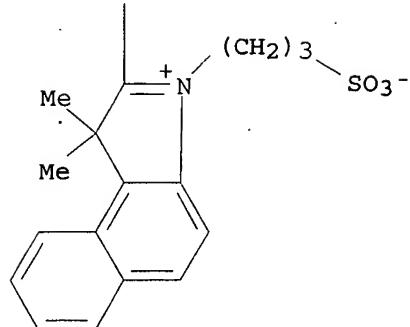


PAGE 2-A



●2 Na

PAGE 2-B



L21 ANSWER 8 OF 21 HCAPLUS COPYRIGHT 2005 ACS on STN  
 AN 1999:819529 HCAPLUS  
 DN 132:60102  
 TI Nucleic acid-coupled colorimetric analyte detectors using self-assembling polydiacetylenic materials  
 IN Charych, Deborah H.; Jonas, Ulrich  
 PA Regents of the University of California, USA  
 SO PCT Int. Appl., 176 pp.  
 CODEN: PIXXD2  
 DT Patent  
 LA English  
 FAN.CNT 11

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 9967423	A1	19991229	WO 1999-US14029	19990622
W: AU, CA, JP RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
CA 2330937	AA	19991229	CA 1999-2330937	19990622
AU 9947047	A1	20000110	AU 1999-47047	19990622
AU 748644	B2	20020606		
EP 1112377	A1	20010704	EP 1999-930522	19990622
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
JP 2004500006	T2	20040108	JP 2000-556063	19990622
PRAI US 1998-90266P	P	19980622		
US 1999-337973	A	19990621		
WO 1999-US14029	W	19990622		
AB The present invention relates to methods and compns. for the direct detection of analytes and membrane conformational changes through the detection of color changes in biopolymeric materials. In particular, the present invention provides for the direct colorimetric detection of analytes using nucleic acid ligands at surfaces or polydiacetylene liposomes and related mol. layer systems. Synthetic schemes are provided for the preparation and immobilization of polydiacetylenic materials with various head groups.				
IC C12Q001-68; G01N033-53; C12N011-00; C12M001-00; C07H021-04				
CC 3-1 (Biochemical Genetics)				
Section cross-reference(s): 9				
ST nucleic acid coupled colorimetry analysis self assembly polydiacetylene				
IT Toxins				
RL: ANT (Analyte); ANST (Analytical study) (Escherichia coli; nucleic acid-coupled colorimetric analyte detectors				

using self-assembling polydiacetylenic materials)

IT Phosphatidylethanolamines, uses  
RL: MOA (Modifier or additive use); USES (Uses)  
(N-biotinyl, dopant for biopolymeric materials; nucleic acid-coupled colorimetric analyte detectors using self-assembling polydiacetylenic materials)

IT Amines, analysis  
RL: ARU (Analytical role, unclassified); ANST (Analytical study)  
(allyl, self-assembling monomers; nucleic acid-coupled colorimetric analyte detectors using self-assembling polydiacetylenic materials)

IT Films  
Liposomes  
(biopolymeric; nucleic acid-coupled colorimetric analyte detectors using self-assembling polydiacetylenic materials)

IT Toxins  
RL: ANT (Analyte); ANST (Analytical study)  
(cholera; nucleic acid-coupled colorimetric analyte detectors using self-assembling polydiacetylenic materials)

IT Molecular recognition  
(complexes, non-nucleic acid ligand; nucleic acid-coupled colorimetric analyte detectors using self-assembling polydiacetylenic materials)

IT Surfactants  
(dopant for biopolymeric materials; nucleic acid-coupled colorimetric analyte detectors using self-assembling polydiacetylenic materials)

IT Cardiolipins  
Ceramides  
Cerebrosides  
Lysophosphatidylcholines  
Phosphatidic acids  
Phosphatidylcholines, uses  
Phosphatidylethanolamines, uses  
Phosphatidylglycerols  
Phosphatidylinositols  
Phosphatidylserines  
Polyoxyalkylenes, uses  
Sphingomyelins  
Steroids, uses  
RL: MOA (Modifier or additive use); USES (Uses)  
(dopant for biopolymeric materials; nucleic acid-coupled colorimetric analyte detectors using self-assembling polydiacetylenic materials)

IT Functional groups  
(hydrophilic groups, non-nucleic acid ligand; nucleic acid-coupled colorimetric analyte detectors using self-assembling polydiacetylenic materials)

IT Functional groups  
(hydrophobic, non-nucleic acid ligand; nucleic acid-coupled colorimetric analyte detectors using self-assembling polydiacetylenic materials)

IT RNA  
RL: ANT (Analyte); ANST (Analytical study)  
(intron; nucleic acid-coupled colorimetric analyte detectors using self-assembling polydiacetylenic materials)

IT Chelating agents  
Chromophores  
Drugs  
Electron acceptors  
Electron donors  
(non-nucleic acid ligand; nucleic acid-coupled colorimetric analyte detectors using self-assembling polydiacetylenic materials)

IT Carbohydrates, analysis

Proteins, general, analysis  
Sialic acids  
Trisaccharides  
RL: ARU (Analytical role, unclassified); ANST (Analytical study)  
(non-nucleic acid ligand; nucleic acid-coupled colorimetric analyte  
detectors using self-assembling polydiacetylenic materials)

IT Bacteria (Eubacteria)  
Colorimeters  
Colorimetry  
Fungi  
Hepatitis A virus  
Hepatitis B virus  
Human herpesvirus  
Human herpesvirus 3  
Human herpesvirus 4  
Human immunodeficiency virus  
Human immunodeficiency virus 1  
Human poliovirus  
Influenza virus  
Neisseria gonorrhoeae  
Nucleic acid hybridization  
Parasite  
Pathogen  
Rabies virus  
Retroviridae  
Rhinovirus  
Rubella virus  
Self-assembly  
Vaccinia virus  
Variola virus  
Vibrio vulnificus  
Virus  
(nucleic acid-coupled colorimetric analyte detectors using  
self-assembling polydiacetylenic materials)

IT Agglutinins and Lectins  
Antibodies  
Antigens  
DNA  
Double stranded RNA  
Enzymes, analysis  
Hormones, animal, analysis  
Nucleic acids  
Receptors  
Transcription factors  
mRNA  
rRNA  
tRNA  
RL: ANT (Analyte); ANST (Analytical study)  
(nucleic acid-coupled colorimetric analyte detectors using  
self-assembling polydiacetylenic materials)

IT Glycerophospholipids  
RL: MOA (Modifier or additive use); USES (Uses)  
(phosphatidylmethanols, dopant for biopolymeric materials; nucleic  
acid-coupled colorimetric analyte detectors using self-assembling  
polydiacetylenic materials)

IT Polydiacetylenes  
Polydiacetylenes  
RL: ARU (Analytical role, unclassified); DEV (Device component use); ANST  
(Analytical study); USES (Uses)  
(polyamide-; nucleic acid-coupled colorimetric analyte detectors using

self-assembling polydiacetylenic materials)

IT Polyamides, analysis  
Polyamides, analysis  
RL: ARU (Analytical role, unclassified); DEV (Device component use); ANST (Analytical study); USES (Uses)  
(polydiacetylene-; nucleic acid-coupled colorimetric analyte detectors using self-assembling polydiacetylenic materials)

IT Polymers, analysis  
RL: ARU (Analytical role, unclassified); ANST (Analytical study)  
(polythiophenes, self-assembling monomers; nucleic acid-coupled colorimetric analyte detectors using self-assembling polydiacetylenic materials)

IT Alkenes, analysis  
Alkynes  
Imides  
Siloxanes (nonpolymeric)  
Urethanes  
RL: ARU (Analytical role, unclassified); ANST (Analytical study)  
(self-assembling monomers; nucleic acid-coupled colorimetric analyte detectors using self-assembling polydiacetylenic materials)

IT DNA  
RL: ANT (Analyte); ANST (Analytical study)  
(single-stranded; nucleic acid-coupled colorimetric analyte detectors using self-assembling polydiacetylenic materials)

IT Fluoropolymers, uses  
Glass, uses  
Mica-group minerals, uses  
RL: DEV (Device component use); USES (Uses)  
(solid support; nucleic acid-coupled colorimetric analyte detectors using self-assembling polydiacetylenic materials)

IT Oligosaccharides, analysis  
RL: ARU (Analytical role, unclassified); ANST (Analytical study)  
(tetrasaccharides, non-nucleic acid ligand; nucleic acid-coupled colorimetric analyte detectors using self-assembling polydiacetylenic materials)

IT Ethers, analysis  
RL: ARU (Analytical role, unclassified); ANST (Analytical study)  
(vinyl, self-assembling monomers; nucleic acid-coupled colorimetric analyte detectors using self-assembling polydiacetylenic materials)

IT Detergents  
(zwitterionic, dopant for biopolymeric materials; nucleic acid-coupled colorimetric analyte detectors using self-assembling polydiacetylenic materials)

IT 66990-32-7P, 10,12-Pentacosadiynoic acid 92266-90-5P,  
10,12-Pentacosadiyn-1-ol 120650-77-3P 144314-93-2P 155020-22-7P  
162635-75-8P 211996-57-5P 211996-58-6P  
RL: ARU (Analytical role, unclassified); DEV (Device component use); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation); USES (Uses)  
(chemical synthesis of biopolymeric materials; nucleic acid-coupled colorimetric analyte detectors using self-assembling polydiacetylenic materials)

IT 929-75-9, Tetraethylene glycol diamine 136766-23-9  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(chemical synthesis of biopolymeric materials; nucleic acid-coupled colorimetric analyte detectors using self-assembling polydiacetylenic materials)

IT 136766-21-7P 137870-33-8P 146064-05-3P 146064-06-4P 146064-07-5P  
146064-08-6P 146064-09-7P 146064-10-0P 228723-67-9P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT

(Reactant or reagent)

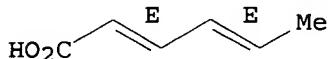
(chemical synthesis of biopolymeric materials; nucleic acid-coupled colorimetric analyte detectors using self-assembling polydiacetylenic materials)

- IT 57-88-5, Cholesterol, uses 83-44-3 123-78-4, D-erythro-Sphingosine 151-21-3, Sodium dodecyl sulfate, uses 460-12-8D, Diacetylene, derivs. 9036-19-5, Octoxynol 25322-68-3 29557-51-5, Dodecyl phosphocholine 34344-66-6, Polysorbic acid 58846-77-8, Decyl glucoside  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (dopant for biopolymeric materials; nucleic acid-coupled colorimetric analyte detectors using self-assembling polydiacetylenic materials)
- IT 37758-47-7, Ganglioside GM1 59247-13-1, Ganglioside GT1b  
 RL: ARU (Analytical role, unclassified); ANST (Analytical study)  
 (non-nucleic acid ligand; nucleic acid-coupled colorimetric analyte detectors using self-assembling polydiacetylenic materials)
- IT 9001-84-7, Phospholipase A2. 9001-86-9, Phospholipase C 9001-87-0, Phospholipase D 9002-61-3, Chorionic gonadotropin 9026-81-7, Nuclease 9031-50-9, Nucleotidyltransferase 9031-56-5, Ligase 37209-28-2, Bungarotoxin 120178-12-3, Telomerase  
 RL: ANT (Analyte); ANST (Analytical study)  
 (nucleic acid-coupled colorimetric analyte detectors using self-assembling polydiacetylenic materials)
- IT 62-53-3D, Aniline, compds. 79-06-1D, Acrylamide, compds. 79-41-4D, Methacrylic acid, compds. 109-97-7D, Pyrrole, compds. 110-02-1D, Thiophene, compds. 1121-34-2D, Malic anhydride, compds. 19295-34-2D, Vinylpyridinium, compds.  
 RL: ARU (Analytical role, unclassified); ANST (Analytical study)  
 (self-assembling monomers; nucleic acid-coupled colorimetric analyte detectors using self-assembling polydiacetylenic materials)
- IT 138305-24-5, 5,7-Pentacosadiynoic acid 178560-65-1, 5,7-Docosadiynoic acid  
 RL: ARU (Analytical role, unclassified); RCT (Reactant); ANST (Analytical study); RACT (Reactant or reagent)  
 (self-assembling monomers; nucleic acid-coupled colorimetric analyte detectors using self-assembling polydiacetylenic materials)
- IT 7440-21-3, Silicon, uses 7440-57-5, Gold, uses 7631-86-9, Silica, uses 9002-84-0, Teflon 9002-88-4, Polyethylene 9003-53-6, Polystyrene 9012-36-6, Sepharose 9014-76-0, Sephadex 25014-41-9D, Polyacrylonitrile, compds.  
 RL: DEV (Device component use); USES (Uses)  
 (solid support; nucleic acid-coupled colorimetric analyte detectors using self-assembling polydiacetylenic materials)
- IT 34344-66-6, Polysorbic acid  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (dopant for biopolymeric materials; nucleic acid-coupled colorimetric analyte detectors using self-assembling polydiacetylenic materials)
- RN 34344-66-6 HCAPLUS  
 CN 2,4-Hexadienoic acid, (2E,4E)-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 110-44-1  
 CMF C6 H8 O2

Double bond geometry as shown.



RE.CNT 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L21 ANSWER 9 OF 21 HCAPLUS COPYRIGHT 2005 ACS on STN  
 AN 1999:597490 HCAPLUS  
 DN 131:214770  
 TI Polyadducts of nonlinear optically active copolymers for use in nonlinear optical media  
 IN Kanitz, Andreas; Hartmann, Horst; Fricke, Christian; Kuhne, Karsten  
 PA Siemens Aktiengesellschaft, Germany  
 SO Eur. Pat. Appl., 14 pp.  
 CODEN: EPXXDW

DT Patent  
 LA German

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 942019	A2	19990915	EP 1999-103891	19990301
	EP 942019	A3	19991006		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	JP 2000081645	A2	20000321	JP 1999-62257	19990309
	US 6174961	B1	20010116	US 1999-265444	19990309
	US 2001053818	A1	20011220	US 2000-727007	20001130
	US 6353059	B2	20020305		
PRAI	DE 1998-19810065	A	19980309		
	US 1999-265444	A3	19990309		

AB The title products, with low optical loss and hindrance of chromophore relaxation at temps. up to >100°, have specified structures and bear epoxy groups and nonlinear-optically active groups. Refluxing 0.1 mol 3-(heptylaminophenol (prepared in 62% yield from 3-aminophenol and heptyl bromide) with 0.11 mol 2-bromoethanol in MeOH containing NaHCO<sub>3</sub> gave 54% 3-[heptyl(2-hydroxyethyl)amino]phenol, converted with isoamyl nitrite in HCl-saturated PrOH to N-heptyl-N'-hydroxy-N-(2-hydroxyethyl)quinone diiminium chloride (62%), reaction of which with 1-naphthylmalononitrile and Et<sub>3</sub>N in DMF gave 28% 5-(dicyanomethylene)-9-[heptyl(2-hydroxyethyl)amino]benzo[a]phenoxyazine, esterification of which with methacryloyl chloride gave 65% methacrylate ester (I). AIBN-initiated copolymer of 1 33, glycidyl methacrylate 15, and cyclohexyl methacrylate 52 mol% gave 87% copolymer with glass temperature 133°.

IC ICM C08F246-00

ICS C08F220-36; C09K019-38

CC 35-5 (Chemistry of Synthetic High Polymers)

Section cross-reference(s): 28

ST copolymer nonlinear optical material; methacrylate copolymer nonlinear optical; benzophenoxyazine deriv copolymer nonlinear optical; naphthylmalononitrile reaction quinone diiminium chloride; heptylhydroxyethylaminophenol reaction isoamyl nitrite

IT Nonlinear optical materials

(polyadducts of nonlinear optically active copolymers for use in nonlinear optical media)

IT 109-77-3, Malononitrile

RL: RCT (Reactant); RACT (Reactant or reagent)  
(coupling with iodothiophene)

IT 3437-95-4, 2-Iodothiophene

RL: RCT (Reactant); RACT (Reactant or reagent)  
(coupling with malononitrile)

IT 920-46-7, Methacryloyl chloride

RL: RCT (Reactant); RACT (Reactant or reagent)  
(esterification with heterocyclic alcs.)

IT 243471-71-8P 243471-73-0P 243471-76-3P  
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)  
(polyadducts of nonlinear optically active copolymers for use in nonlinear optical media)

IT 243471-62-7P 243471-65-0P 243471-79-6P 243471-80-9P  
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(polyadducts of nonlinear optically active copolymers for use in nonlinear optical media)

IT 243471-67-2P 243471-70-7P 243471-72-9P 243471-74-1P 243471-75-2P  
243471-77-4P  
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)  
(preparation and methacryloylation)

IT 58494-81-8P, 3-(Butylamino)phenol 243471-66-1P  
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)  
(preparation and reaction with bromoethanol)

IT 243471-63-8P 243471-68-3P  
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)  
(preparation and reaction with isoamyl nitrite)

IT 243471-64-9P 243471-69-4P  
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)  
(preparation and reaction with naphthylmalononitrile)

IT 540-51-2, 2-Bromoethanol  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction with (butylamino)phenol)

IT 591-27-5, 3-Aminophenol  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction with alkyl bromides)

IT 109-65-9, 1-Bromobutane 629-04-9, 1-Bromoheptane  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction with aminophenol)

IT 603-72-5, 1,8-Naphthosultam 5518-09-2, 1-Naphthylmalononitrile  
41279-57-6, N-Cyano-1-naphthylamine 155653-32-0 243471-78-5  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction with quinone diiminium derivs.)

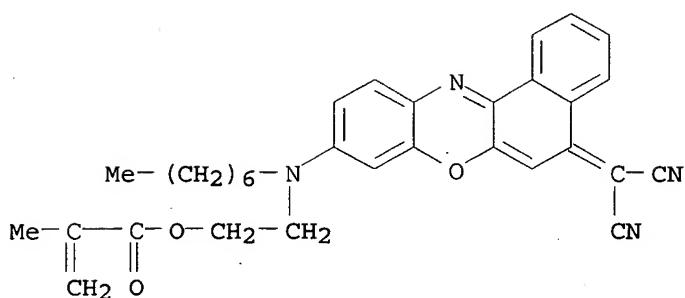
IT 243471-80-9P  
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(polyadducts of nonlinear optically active copolymers for use in nonlinear optical media)

RN 243471-80-9 HCPLUS

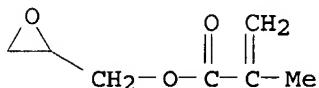
CN 2-Propenoic acid, 2-methyl-, cyclohexyl ester, polymer with  
2-[{5-(dicyanomethylene)-5H-benzo[a]phenoxyazin-9-yl}heptylamino]ethyl  
2-methyl-2-propenoate and oxiranylmethyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

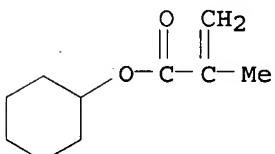
CRN 243471-65-0  
CMF C32 H32 N4 O3



CM 2

CRN 106-91-2  
CMF C7 H10 O3

CM 3

CRN 101-43-9  
CMF C10 H16 O2

L21 ANSWER 10 OF 21 HCPLUS COPYRIGHT 2005 ACS on STN  
 AN 1998:723794 HCPLUS  
 DN 130:1845  
 TI Physiologically tolerable chromophore-polyalkylene oxide conjugate light imaging contrast agents, and preparation thereof  
 IN Snow, Robert Allen; Henrichs, Paul Mark; Delecki, Daniel Joseph; Sanderson, William Anthony; Desai, Vinay Chandrakant; Bacon, Edward; Hollister, Kenneth Robert; Hohenschuh, Eric Paul  
 PA Nycomed Imaging AS, Norway; Cockbain, Julian Roderick Michaelson  
 SO PCT Int. Appl., 174 pp.  
 CODEN: PIXXD2  
 DT Patent  
 LA English  
 FAN.CNT 3

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9848838	A1	19981105	WO 1998-GB1244	19980428
	W: AL, AM, AT, AU, AZ, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK,				

EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP,  
 KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MN, MW, MX, NO, NZ,  
 PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US  
 RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES,  
 FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI,  
 CM, GA, GN, ML, MR, NE, SN, TD, TG  
 WO 9848845 A1 19981105 WO 1998-GB1245 19980428  
 W: AL, AM, AT, AU, AZ, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK,  
 EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP,  
 KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MN, MW, MX, NO, NZ,  
 PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US  
 RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES,  
 FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI,  
 CM, GA, GN, ML, MR, NE, SN, TD, TG  
 AU 9872212 A1 19981124 AU 1998-72212 19980428  
 AÜ 9872213 A1 19981124 AU 1998-72213 19980428  
 EP 979103 A1 20000216 EP 1998-919335 19980428  
 EP 979103 B1 20040102  
 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,  
 IE, FI  
 JP 2002504894 T2 20020212 JP 1998-546749 19980428  
 AT 257014 E 20040115 AT 1998-919335 19980428  
 ES 2213899 T3 20040901 ES 1998-919335 19980428  
 US 6350431 B1 20020226 US 1999-429347 19991028  
 PRAI US 1997-848586 A2 19970429  
 GB 1997-27124 A 19971222  
 US 1998-35285 A2 19980305  
 WO 1998-GB1244 W 19980428  
 WO 1998-GB1245 W 19980428  
 AB Physiol. tolerable light imaging contrast agent compds. are provided  
 having a mol. weight in the range 500-500,000 and containing at least two  
**chromophores** having delocalized electron systems as well as at  
 least one polyalkylene oxide (PAO) moiety having a mol. weight in the range  
 60-100,000.  
 IC A61K041-00; A61K049-00  
 CC 8-9 (Radiation Biochemistry)  
 Section cross-reference(s): 63  
 ST **chromophore** polyalkylene oxide conjugate imaging agent; light  
 imaging contrast agent prepn  
 IT Confocal laser scanning microscopy  
     (and visual observation; **chromophore**-polyalkylene oxide  
     conjugate light imaging contrast agents, and preparation thereof)  
 IT Polyoxyalkylenes, biological studies  
 RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
     (**chromophore** conjugates; **chromophore**-polyalkylene  
     oxide conjugate light imaging contrast agents, and preparation thereof)  
 IT Antitumor agents  
 Drug delivery systems  
 Light  
 Neoplasm  
 Particle size  
 Therapy  
     (**chromophore**-polyalkylene oxide conjugate light imaging  
     contrast agents, and preparation thereof)  
 IT Intestine, neoplasm  
     (colon, carcinoma, HT-29; **chromophore**-polyalkylene oxide  
     conjugate light imaging contrast agents, and preparation thereof)  
 IT Fluorescence microscopy  
     (confocal; **chromophore**-polyalkylene oxide conjugate light  
     imaging contrast agents, and preparation thereof)

- IT Imaging agents  
(contrast; **chromophore**-polyalkylene oxide conjugate light imaging contrast agents, and preparation thereof)
- IT Polyoxyalkylenes, biological studies  
RL: SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)  
(diamine derivs; **chromophore**-polyalkylene oxide conjugate light imaging contrast agents, and preparation thereof)
- IT Drug delivery systems  
(emulsions, sudan III; **chromophore**-polyalkylene oxide conjugate light imaging contrast agents, and preparation thereof)
- IT Circulation  
(fluorescence imaging; **chromophore**-polyalkylene oxide conjugate light imaging contrast agents, and preparation thereof)
- IT Drug delivery systems  
(liposomes, indocyanine green; **chromophore**-polyalkylene oxide conjugate light imaging contrast agents, and preparation thereof)
- IT Drug delivery systems  
(nanoparticles, fluorescein; **chromophore**-polyalkylene oxide conjugate light imaging contrast agents, and preparation thereof)
- IT Microscopy  
(photoacoustic, acousto-optical, diffusive wave, time-resolved imaging, endoscopic, multiphoton excitation; **chromophore**-polyalkylene oxide conjugate light imaging contrast agents, and preparation thereof)
- IT Chromophores  
(polyalkylene oxide conjugates; **chromophore**-polyalkylene oxide conjugate light imaging contrast agents, and preparation thereof)
- IT Rare earth complexes  
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
(polyalkylene oxide conjugates; **chromophore**-polyalkylene oxide conjugate light imaging contrast agents, and preparation thereof)
- IT Lymph node  
(sentinel; **chromophore**-polyalkylene oxide conjugate light imaging contrast agents, and preparation thereof)
- IT Drug targeting  
(targeting vectors; **chromophore**-polyalkylene oxide conjugate light imaging contrast agents, and preparation thereof)
- IT 603-35-0, Triphenyl phosphine, reactions 7719-09-7, Thionyl chloride 26628-22-8, Sodium azide  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(**chromophore**-polyalkylene oxide conjugate light imaging contrast agents, and preparation thereof)
- IT 107-15-3DP, Ethylenediamine, reaction product with aluminum chlorophthalocyanine tetrasulfonate 24991-53-5DP, reaction products with aluminumchlorophthalocyaninetetrasulfonyl chloride 25322-68-3DP, diamine derivs 62796-29-6DP, reaction products polyoxyethylene-polyoxypolypropylene block amino derivs. 68665-24-7DP, polymers with PEG diamine 104469-80-9DP, reaction product with PEG diamine 106392-12-5DP, amino derivs., reaction product with Rhodamine B sulfonyl chloride 110617-70-4DP, reaction product with zinc phthalocyanine derivative 114251-83-1DP, reaction product with surfactant amino groups 169799-14-8DP, Cy-7, reaction product with Surfactant T 908 amino derivs. 215712-90-6P 215712-91-7P  
RL: SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)  
(**chromophore**-polyalkylene oxide conjugate light imaging contrast agents, and preparation thereof)
- IT 574-93-6D, Phthalocyanine, polyalkylene oxide conjugates 581-64-6D, Cyanine, N-derivs., polyalkylene oxide conjugates 2321-07-5D, Fluorescein, polyalkylene oxide conjugates 7440-19-9D, Samarium,

radionuclides, chelates, polyalkylene oxide conjugates, biological studies  
7440-26-8D, Technetium, radionuclides, chelates, polyalkylene oxide  
conjugates, biological studies 7440-50-8D, Copper, radionuclides,  
chelates, polyalkylene oxide conjugates, biological studies 9004-95-9,  
Brij 58 25301-02-4, Tyloxapol 106392-12-5, F 68 106392-12-5D,  
Polyethylene oxide-polypropylene oxide block copolymer,  
**chromophore** conjugates 110617-70-4D, Tetronic,  
**chromophore** conjugates 177910-36-0, P79  
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
(**chromophore**-polyalkylene oxide conjugate light imaging  
contrast agents, and preparation thereof)

IT 3599-32-4, Indocyanine green  
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
(liposomes; **chromophore**-polyalkylene oxide conjugate light  
imaging contrast agents, and preparation thereof)

IT 63666-10-4P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
(Reactant or reagent)  
(preparation and reaction; **chromophore**-polyalkylene oxide  
conjugate light imaging contrast agents, and preparation thereof)

IT 62-53-3, Aniline, reactions 1120-71-4, 1,3-Propane sultone 17159-79-4,  
Ethyl 4-oxocyclohexanecarboxylate 24991-53-5 27072-45-3, Fluorescein  
isothiocyanate 41532-84-7, 1,1,2-Trimethyl-1H-benz[e]indole 62796-29-6  
68665-24-7 68865-60-1 110617-70-4 114251-83-1 169799-14-8, Cy-7  
215712-92-8  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction; **chromophore**-polyalkylene oxide conjugate light  
imaging contrast agents, and preparation thereof)

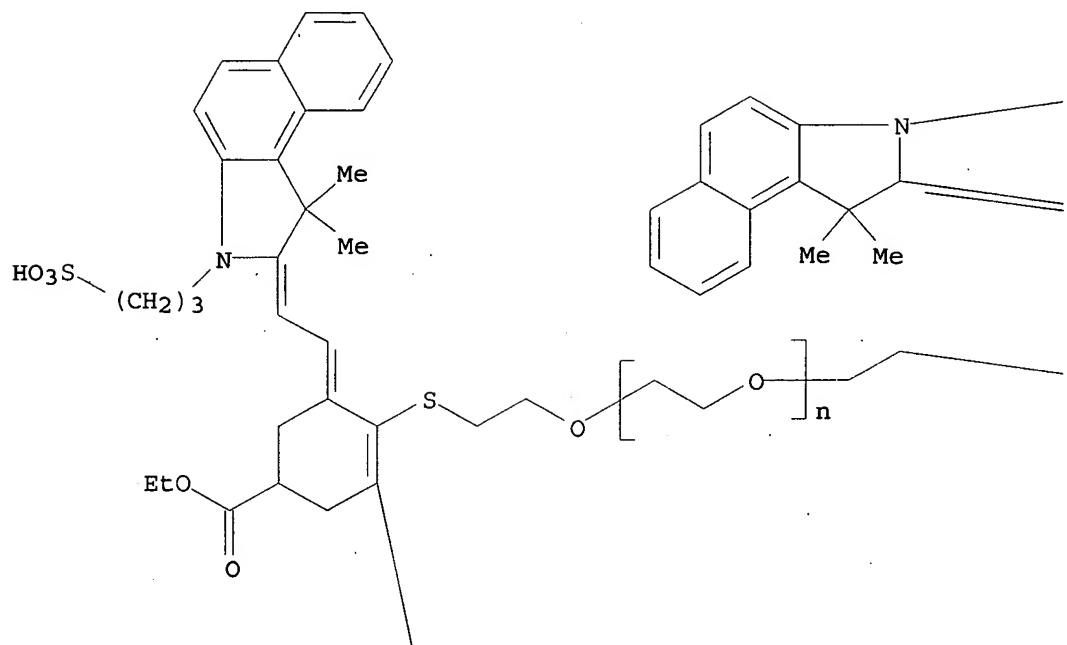
IT 85-86-9, Sudan III  
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
(stable emulsion; **chromophore**-polyalkylene oxide conjugate  
light imaging contrast agents, and preparation thereof)

IT 215712-91-7P  
RL: SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological  
study); PREP (Preparation); USES (Uses)  
(**chromophore**-polyalkylene oxide conjugate light imaging  
contrast agents, and preparation thereof)

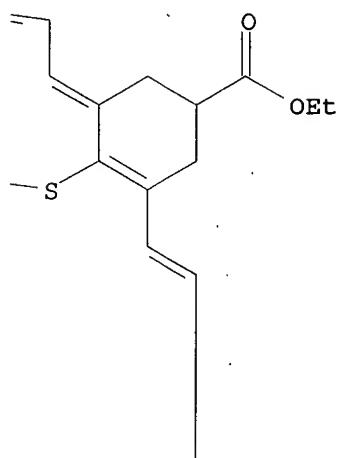
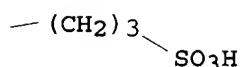
RN 215712-91-7 HCAPLUS

CN Poly(oxy-1,2-ethanediyl),  $\alpha$ -[2-[[6-[2-[1,3-dihydro-1,1-dimethyl-3-(3-sulfopropyl)-2H-benz[e]indol-2-ylidene]ethylidene]-2-[2-[1,1-dimethyl-3-(3-sulfopropyl)-1H-benz[e]indolium-2-yl]ethenyl]-4-(ethoxycarbonyl)-1-cyclohexen-1-yl]thio]ethyl]- $\omega$ -[2-[[6-[2-[1,3-dihydro-1,1-dimethyl-3-(3-sulfopropyl)-2H-benz[e]indol-2-ylidene]ethylidene]-2-[2-(1,1-dimethyl-3-(3-sulfopropyl)-1H-benz[e]indolium-2-yl)ethenyl]-4-(ethoxycarbonyl)-1-cyclohexen-1-yl]thio]ethoxy]-, bis(inner salt), disodium salt (9CI) (CA INDEX NAME)

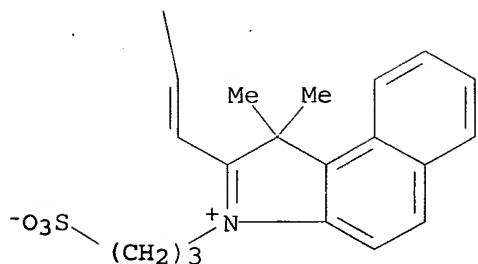
PAGE 1-A



PAGE 1-B

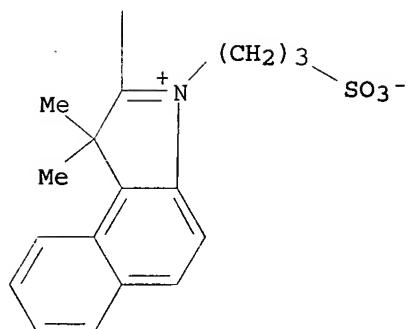


PAGE 2-A



●2 Na

PAGE 2-B



RE.CNT 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

- L21 ANSWER 11 OF 21 HCPLUS COPYRIGHT 2005 ACS on STN  
 AN 1998:536795 HCPLUS  
 DN 129:231331  
 TI Synthetic approach for the incorporation of second-order nonlinear optical chromophores containing heteroatomics into methacrylate copolymers  
 AU Samyn, C.; Heylen, M.; Claes, G.; Boutton, c.; Van Beylen, M.; Persoons, A.  
 CS Lab. Macromolecular Phys / Organic Chem., Univ. Leuven, Louvain, B-3001, Belg.  
 SO European Polymer Journal (1998), 34(8), 1069-1072  
 CODEN: EUPJAG; ISSN: 0014-3057  
 PB Elsevier Science Ltd.  
 DT Journal  
 LA English  
 AB Nonlinear optical chromophores with thiophene groups incorporated in the conjugated system were synthesized. Their second-order nonlinear response was evaluated by elec.-field-induced second-harmonic generation (EFISHG) measurements. Off-resonant values  $\mu\beta_0$  as high as  $589 \cdot 10^{-48}$  esu were obtained. Some of the D $\pi$ A (donor-accepted conjugated) systems were incorporated as side chain into

MMA-**chromophore** functionalized methacrylate copolymers in various concns. The copolymers show a decrease in Tg with increasing **chromophore** content.

CC 37-3 (Plastics Manufacture and Processing).  
Section cross-reference(s): 35, 73

ST second order NLO **chromophore** methacrylate copolymer; nonlinear optical **chromophore** methacrylate copolymer

IT Glass transition temperature  
(of methacrylate copolymers containing second-order nonlinear optical **chromophores** in relation to **chromophore** content)

IT Nonlinear optical properties  
Second-harmonic generation  
(preparation and characterization of methacrylate copolymers containing second-order nonlinear optical **chromophores**)

IT 89639-68-9P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(model **chromophore** intermediate; preparation and characterization of methacrylate copolymers containing second-order nonlinear optical **chromophores**)

IT 75-08-1, Ethanethiol 104-03-0, 4-Nitrophenylacetic acid 105-34-0,  
Methyl cyanoacetate 109-77-3, Malononitrile 4521-33-9,  
5-Nitro-2-thiophenecarboxaldehyde 4701-17-1, 5-Bromo-2-thiophenecarboxaldehyde 34904-04-6 212687-84-8 212687-86-0  
212687-88-2  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(model **chromophore** starting material; preparation and characterization of methacrylate copolymers containing second-order nonlinear optical **chromophores**)

IT 139262-55-8P 212687-80-4P 212687-81-5P 212687-82-6P 212687-83-7P  
212687-85-9P 212687-87-1P  
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
(model **chromophore**; preparation and characterization of methacrylate copolymers containing second-order nonlinear optical **chromophores**)

IT 212687-89-3P 212687-90-6P 212687-91-7P 212688-00-1P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(monomer intermediate; preparation and characterization of methacrylate copolymers containing second-order nonlinear optical **chromophores**)

IT 212687-92-8P 212687-93-9P 212687-94-0P 212687-95-1P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(monomer; preparation and characterization of methacrylate copolymers containing second-order nonlinear optical **chromophores**)

IT 212687-96-2P 212687-97-3P 212687-98-4P 212687-99-5P  
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
(preparation and characterization of methacrylate copolymers containing second-order nonlinear optical **chromophores**)

IT 212687-96-2P 212687-97-3P  
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
(preparation and characterization of methacrylate copolymers containing second-order nonlinear optical **chromophores**)

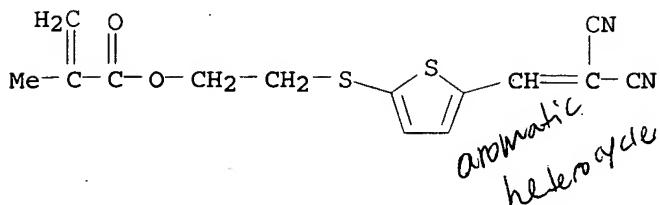
RN 212687-96-2 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-[[5-(2,2-dicyanoethyl)-2-thienyl]thio]ethyl ester, polymer with methyl 2-methyl-2-propenoate (9CI)  
(CA INDEX NAME)

LEE 10/689482 7/5/05 Page 48

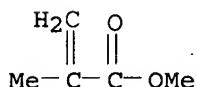
CM 1

CRN 212687-92-8  
CMF C14 H12 N2 O2 S2



CM 2

CRN 80-62-6  
CMF C5 H8 O2

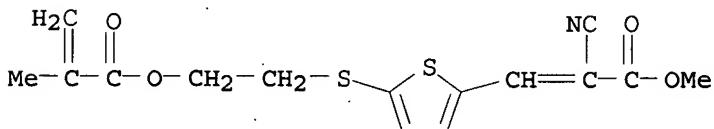


RN 212687-97-3 HCPLUS

CN 2-Propenoic acid, 2-methyl-, methyl ester, polymer with methyl 2-cyano-3-[5-[[2-[(2-methyl-1-oxo-2-propenyl)oxy]ethyl]thio]-2-thienyl]-2-propenoate (9CI) (CA INDEX NAME)

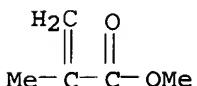
CM 1

CRN 212687-93-9  
CMF C15 H15 N O4 S2



CM 2

CRN 80-62-6  
CMF C5 H8 O2



RE.CNT 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L21 ANSWER 12 OF 21 HCPLUS COPYRIGHT 2005 ACS on STN  
AN 1998:208921 HCPLUS

KATHLEEN FULLER EIC 1700 REMSON 4B28 571/272-2505

DN 128:193162  
 TI Synthesis and Electrooptic Properties of a New Chromophore  
 Dispersed or Grafted in a Carbazolyl Methacrylate Matrix  
 AU Maertens, C.; Dubois, P.; Jerome, R.; Blanche, P. -A.; Lemaire, Ph. C.  
 CS Center for Education and Research on Macromolecules (C.E.R.M.), Universite  
 de Liege, Liege, B 4000, Belg.  
 SO Chemistry of Materials (1998), 10(4), 1010-1016  
 CODEN: CMATEX; ISSN: 0897-4756  
 PB American Chemical Society  
 DT Journal  
 LA English  
 AB A copolymer of [11-(N-carbazolyl)undecyl methacrylate] and Et  
 (E)-2-cyano-3[5-(5-(4-methacryloyloxy)piperidino-2-thienylcarbonyl)-2-  
 thienyl]-2-propenoate was prepared. The photocond. and the electrooptic  
 properties of a hot-pressed thin film of this copolymer have been measured  
 and compared with the properties of the dispersion of Et  
 (E)-2-cyano-3[5-(5-piperidino-2-thienylcarbonyl)-2-thienyl]-2-propenoate  
 within a poly[11-(N-carbazolyl)undecyl methacrylate] matrix. The  
 electrooptic coefficient has been measured by both interferometric and  
 polarimetric techniques. The interferometric technique was not  
 appropriated because the strong elec. field applied to the electrodes  
 changes the film thickness of these low Tg materials. A value of up to 5  
 pm/V for the figure of merit  $n_3(r_{13} - r_{33})$  has been reported for the  
 dispersed material, which is 10 times higher than the corresponding  
 grafted material, and a linear relationship between the poling intensity  
 and the electrooptic coefficient has been observed for the two materials.  
 CC 37-3 (Plastics Manufacture and Processing)  
 Section cross-reference(s): 73, 76  
 ST methacrylate chromophore copolymer synthesis electrooptic;  
 carbazolyl methacrylate copolymer photocond glass temp  
 IT Dielectric polarization  
 Electric field  
 Electrooptical effect  
 Glass transition temperature  
 Nonlinear optical properties  
 Polymerization  
 (synthesis, electrooptic properties, and photocond. of  
 chromophore-dispersed- or grafted-carbazolyl methacrylate  
 matrix)  
 IT 128629-05-0  
 RL: PRP (Properties)  
 (in synthesis of electrooptic chromophore)  
 IT 203588-12-SP 203588-13-0P 203588-14-1P  
 RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP  
 (Preparation); RACT (Reactant or reagent)  
 (in synthesis of electrooptic chromophore)  
 IT 203588-15-2P  
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
 (in synthesis of electrooptic chromophore)  
 IT 96-43-5, 2-Chlorothiophene 105-56-6 110-89-4, Piperidine, reactions  
 4111-54-0, Lithium diisopropylamide 5271-67-0, 2-Thiophenecarbonyl  
 chloride 5382-16-1, 4-Hydroxypiperidine  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (in synthesis of electrooptic chromophore)  
 IT 203588-07-2P 203588-08-3P 203588-09-4P 203588-10-7P 203588-11-8P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
 (Reactant or reagent)  
 (in synthesis of electrooptic chromophore)  
 IT 203588-15-2P  
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)

(in synthesis of electrooptic chromophore)

RN 203588-15-2 HCPLUS

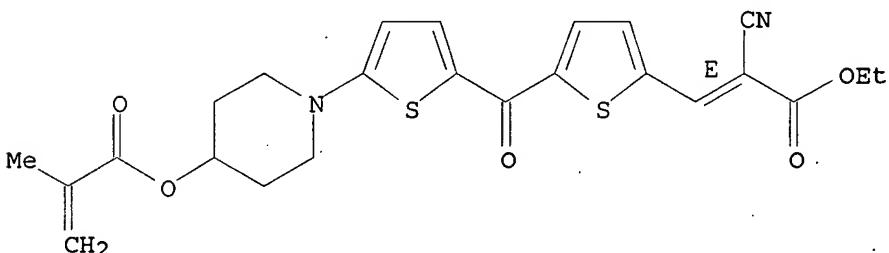
CN 2-Propenoic acid, 2-cyano-3-[5-[[5-[(4-[(2-methyl-1-oxo-2-propenyl)oxy]-1-piperidinyl)-2-thienyl]carbonyl]-2-thienyl]-, ethyl ester, (E)-, polymer with 11-(9H-carbazol-9-yl)undecyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 203588-14-1

CMF C24 H24 N2 O5 S2

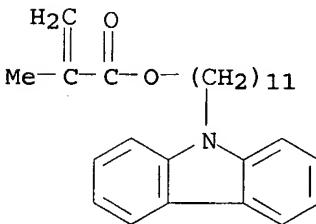
Double bond geometry as shown.



CM 2

CRN 128629-04-9

CMF C27 H35 N O2

RE.CNT 23 THERE ARE 23 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L21 ANSWER 13 OF 21 HCPLUS COPYRIGHT 2005 ACS on STN

AN 1997:721317 HCPLUS

DN 127:346749

TI Synthesis and Photophysical Characterization of Group Transfer Polymers with Pendent Aryl Chromophores

AU Fox, Marye Anne; Thompson, Heike W.

CS Department of Chemistry, University of Texas, Austin, TX, 78712, USA

SO Macromolecules (1997), 30(24), 7391-7396

CODEN: MAMOBX; ISSN: 0024-9297

PB American Chemical Society

DT Journal

LA English

AB Naphthalene- and pyrene-labeled polymers (poly-3-5) prepared by group transfer polymerization of Me 2-(2-naphthyl)acrylate, Me 2-(1-pyrenyl)acrylate, and Et 5-(2-naphthyl)pentadienoate and Et 5-(2-naphthyl)hexadienoate,

resp., were studied as probes for backbone conformational rigidity. Excimer formation was observed in the steady-state fluorescence spectra, and the observation of biexponential decay of time-resolved fluorescence indicates two distinct environments for excimer formation. These, in turn, point to substantial conformational flexibility in the polymer backbone.

CC 35-7 (Chemistry of Synthetic High Polymers)  
 Section cross-reference(s): 36

ST conformational flexibility polyacrylate pendent naphthyl pyrenyl; excimer formation polyacrylate pendent aryl **chromophore**; fluorescence polyhexadienoate polypentadienoate pendent aryl **chromophore**; group transfer polymn aryl acrylate pentenoate

IT Polymer chains  
 (conformation; preparation and photophys. characterization of conformational flexibility of group transfer polymers with pendent aryl **chromophores**)

IT Polymer chains  
 (flexibility; preparation and photophys. characterization of conformational flexibility of group transfer polymers with pendent aryl **chromophores**)

IT Polymerization  
 (group-transfer; preparation and photophys. characterization of conformational flexibility of group transfer polymers with pendent aryl **chromophores**)

IT Excimer  
 Fluorescence  
 (preparation and photophys. characterization of conformational flexibility of group transfer polymers with pendent aryl **chromophores**)

IT 198197-16-9P, Ethyl 5-(2-Naphthyl)-2,4-hexadienoate 198197-21-6P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
 (attempted polymerization; preparation and photophys. characterization of conformational flexibility of group transfer polymers with pendent aryl **chromophores**)

IT 66-99-9, 2-Naphthaldehyde 2876-71-3, Methyl 2-naphthylacetate  
 30525-89-4, Paraformaldehyde 198197-18-1 198197-20-5,  
 6-tert-Butyl-2-naphthaldehyde  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (monomer synthesis; preparation and photophys. characterization of conformational flexibility of group transfer polymers with pendent aryl **chromophores**)

IT 198197-10-3P, Methyl 2-(2-Naphthyl)propenoate 198197-12-5P, Methyl 2-(1-Pyrenyl)propenoate 198197-14-7P, Ethyl 5-(2-Naphthyl)-2,4-pentadienoate 198197-19-2P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
 (monomer; preparation and photophys. characterization of conformational flexibility of group transfer polymers with pendent aryl **chromophores**)

IT 429-41-4, Tetrabutylammonium fluoride 31469-15-5, 1-Methoxy-1-(trimethylsiloxy)-2-methyl-1-propene  
 RL: CAT (Catalyst use); USES (Uses)  
 (preparation and photophys. characterization of conformational flexibility of group transfer polymers with pendent aryl **chromophores**)

IT 198197-11-4P, Methyl 2-(2-naphthyl)acrylate homopolymer 198197-13-6P,  
 Methyl 2-(1-pyrenyl)acrylate homopolymer 198197-15-8P  
 198197-17-0P  
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
 (preparation and photophys. characterization of conformational flexibility of group transfer polymers with pendent aryl **chromophores**)

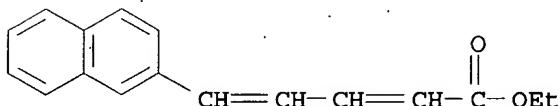
LEE 10/689482 7/5/05 Page 52

IT 93-08-3 75204-01-2, 6-tert-Butyl-2-acetonaphthone  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(preparation and photophys. characterization of conformational flexibility  
of group transfer polymers with pendent aryl chromophores)  
IT 198197-15-8P 198197-17-0P  
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
(preparation and photophys. characterization of conformational flexibility  
of group transfer polymers with pendent aryl chromophores)  
RN 198197-15-8 HCPLUS  
CN 2,4-Pentadienoic acid, 5-(2-naphthalenyl)-, ethyl ester, homopolymer (9CI)  
(CA INDEX NAME)

CM 1

CRN 198197-14-7

CMF C17 H16 O2

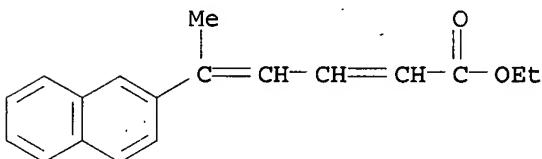


RN 198197-17-0 HCPLUS  
CN 2,4-Hexadienoic acid, 5-(2-naphthalenyl)-, ethyl ester, homopolymer (9CI)  
(CA INDEX NAME)

CM 1

CRN 198197-16-9

CMF C18 H18 O2



L21 ANSWER 14 OF 21 HCPLUS COPYRIGHT 2005 ACS on STN  
AN 1997:682782 HCPLUS  
DN 127:336527  
TI Immobilization of Retinoic Acid by Cationic Polyelectrolytes  
AU Thuenemann, Andreas  
CS Max Planck Institut fuer Kolloid- Grenzflaechenforschung, Teltow-Seehof,  
D-14513, Germany  
SO Langmuir (1997), 13(23), 6040-6046  
CODEN: LANGD5; ISSN: 0743-7463  
PB American Chemical Society  
DT Journal  
LA English  
AB Retinoic acid was immobilized by precipitating its complexes with cationic polyelectrolytes from aqueous solution. Polyelectrolytes with different architectures, such as poly(ionene-6,3 bromide), poly(dimethyldiallyl ammonium chloride), and poly(N-methyl-4-vinylpyridinium chloride), form self-assembling complexes containing retinoic acid.

acid (70% (weight/weight)). All these complexes are thermodynamically stable and can be processed into mesomorphously ordered films with interesting phys. properties. In contrast to the brittle crystalline retinoic acid the complexes with polyelectrolytes are highly deformable viscoelastic materials. All materials show lamellar mesophase structures; their Tg value strongly depends on the polyelectrolyte. It is suggested that these materials have great potential as pharmaceutical agents as well as models for the investigation and the mimicking of **chromophores** in visual pigments and photosynthetic bacteria. The properties of the complexes are examined by X-ray diffraction, DSC, polarization optical microscopy, UV-vis spectroscopy, and stress-strain measurements.

CC 63-5 (Pharmaceuticals)

Section cross-reference(s): 10

ST retinoic acid immobilization cationic polyelectrolyte

IT Polyelectrolytes

(cationic; immobilization of retinoic acid by cationic polyelectrolytes)

IT Immobilization, biochemical

(immobilization of retinoic acid by cationic polyelectrolytes)

IT 197888-33-8P 197888-34-9P 197888-35-0P

RL: PRP (Properties); SPN (Synthetic preparation); THU (Therapeutic use);

BIOL (Biological study); PREP (Preparation); USES (Uses)

(immobilization of retinoic acid by cationic polyelectrolytes)

IT 26062-79-3, Poly(diallyldimethylammonium chloride) 28728-55-4

28826-65-5, Poly(N-methyl-4-vinylpyridinium chloride)

RL: RCT (Reactant); RACT (Reactant or reagent)

(immobilization of retinoic acid by cationic polyelectrolytes)

IT 302-79-4, Retinoic acid

RL: RCT (Reactant); THU (Therapeutic use); BIOL (Biological study); RACT (Reactant or reagent); USES (Uses)

(immobilization of retinoic acid by cationic polyelectrolytes)

IT 197888-33-8P 197888-34-9P 197888-35-0P

RL: PRP (Properties); SPN (Synthetic preparation); THU (Therapeutic use);

BIOL (Biological study); PREP (Preparation); USES (Uses)

(immobilization of retinoic acid by cationic polyelectrolytes)

RN 197888-33-8 HCPLUS

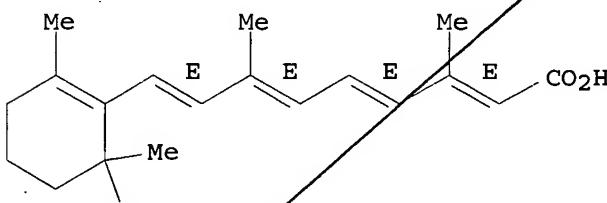
CN 2-Propen-1-aminium, N,N-dimethyl-N-2-propenyl-, chloride, homopolymer, compd. with retinoic acid (9CI) (CA INDEX NAME)

CM 1

CRN 302-79-4

CMF C20 H28 O2

Double bond geometry as shown.



CM 2

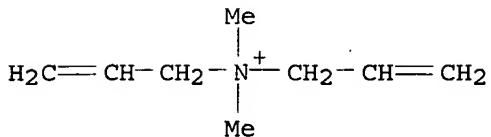
CRN 26062-79-3

LEE 10/689482 7/5/05 Page 54

CMF (C<sub>8</sub> H<sub>16</sub> N . Cl)x  
CCI PMS

CM 3

CRN 7398-69-8  
CMF C<sub>8</sub> H<sub>16</sub> N . Cl

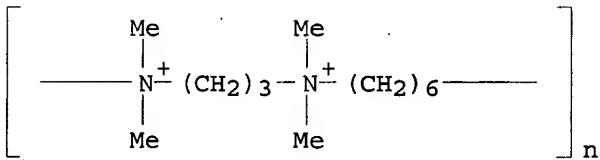


● Cl<sup>-</sup>

RN 197888-34-9 HCAPLUS  
CN Retinoic acid, compd. with poly[(dimethyliminio)-1,3-propanediyl(dimethyliminio)-1,6-hexanediyl dibromide] (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 28728-55-4  
CMF (C<sub>13</sub> H<sub>30</sub> N<sub>2</sub>)<sub>n</sub> . 2 Br  
CCI PMS

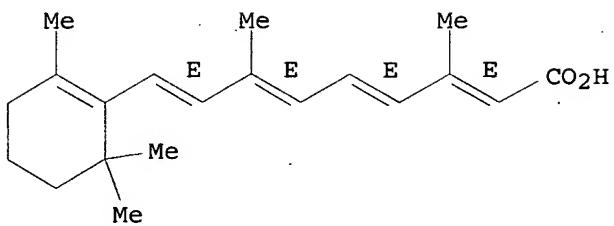


● 2 Br<sup>-</sup>

CM 2

CRN 302-79-4  
CMF C<sub>20</sub> H<sub>28</sub> O<sub>2</sub>

Double bond geometry as shown.



RN 197888-35-0 HCPLUS

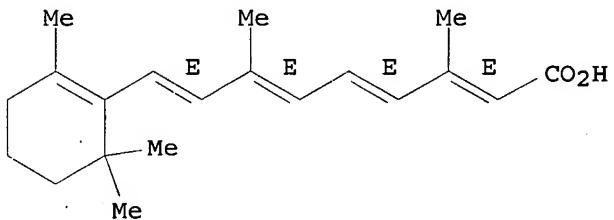
CN Retinoic acid, compd. with 4-ethenyl-1-methylpyridinium chloride homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 302-79-4

CMF C<sub>20</sub> H<sub>28</sub> O<sub>2</sub>

Double bond geometry as shown.



CM 2

CRN 28826-65-5

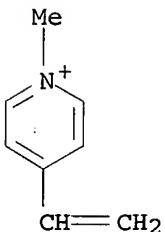
CMF (C<sub>8</sub> H<sub>10</sub> N . Cl)x

CCI PMS

CM 3

CRN 45708-78-9

CMF C<sub>8</sub> H<sub>10</sub> N . Cl



● Cl<sup>-</sup>

RE.CNT 23 THERE ARE 23 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

- L21 ANSWER 15 OF 21 HCAPLUS COPYRIGHT 2005 ACS on STN  
 AN 1996:84394 HCAPLUS  
 DN 124:118894  
 TI Nonlinear optical polymers. Second harmonic generation in corona-poled thin films  
 AU Samyn, Celest; Claes, Goedele; Van Beylen, Marcel; De Wachter, Anneleen; Persoons, Andre  
 CS Laboratory Macromolecular and Physical Organic Chemistry, University Leuven, Heverlee, B-3001, Belg.  
 SO Macromolecular Symposia (1996), 102(9th Rolduc Polymer Meeting, Smart Polymer Materials & Products, 1995), 145-58  
 CODEN: MSYMEC; ISSN: 1022-1360  
 PB Huethig & Wepf  
 DT Journal  
 LA English  
 AB The synthesis and second harmonic coeffs., d<sub>3,1</sub> and d<sub>3,3</sub> as well as the related susceptibilities  $\chi_{zz}(z2z)$  of five series of NLO-dye methacrylate-Me methacrylate copolymers were investigated. The NLO-chromophores bound covalently to the polymer backbone were 5-(2,2-dicyanovinyl)- or 4-(2-cyano-2-methoxycarbonyl)vinyl-1-piperidino-2-thiophene (P1 and P2), 4-nitro-4'-alkoxystilbene (P3), 4-nitro-3'-methoxy-4'-alkoxystilbene (P4) and 4-nitro-4'-alkoxy- $\alpha$ -cyanostilbene (P5). The second order nonlinear optical properties of corona-poled aligned thin polymer films, using a needle electrode in order to induce noncentrosymmetry, were evaluated. Nonlinear susceptibilities,  $\chi_{zz}(z2z)$ , of the films were derived from the anal. of full-angle Maker fringe patterns at 1064 nm,  $\chi_{zz}(z2z)$  values as high as  $1.98 \times 10^{-7}$  esu for P2 copolymers and of  $1.19 \times 10^{-7}$  esu for P3 copolymers could be achieved.  
 CC 37-5 (Plastics Manufacture and Processing)  
 Section cross-reference(s) 73  
 ST optical nonlinear methacrylate copolymer; second harmonic generation methacrylate copolymer; stilbene deriv methacrylate copolymer optical nonlinear; thiophene deriv methacrylate copolymer optical nonlinear  
 IT Electric corona  
 Glass temperature and transition  
 Optical nonlinear property  
 (preparation and properties and second harmonic generation in corona-poled methacrylate copolymer films)  
 IT 920-46-7  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (in preparation piperidinothiophene- or stilbene-containing methacrylate monomers)  
 IT 109-77-3, Malononitrile 4701-17-1, 5-Bromo-2-thiophenecarboxaldehyde 5382-16-1, 4-Hydroxypiperidine  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (in preparation piperidinothiophene-containing methacrylate monomers)  
 IT 81020-78-2P 173294-42-3P 173294-43-4P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
 (in preparation piperidinothiophene-containing methacrylate monomers)  
 IT 104-03-0, 4-Nitrophenylacetic acid 121-33-5, 3-Methoxy-4-hydroxybenzaldehyde 123-08-0, 4-Hydroxybenzaldehyde 555-21-5, 4-Nitrophenylacetonitrile 2009-83-8, 6-Chloro-1-hexanol 96735-91-0, 4-[(6-Hydroxyhexyl)oxy]benzaldehyde 107115-26-4  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (in preparation stilbene-containing methacrylate monomers)

IT 121453-35-8P 173294-44-5P 173294-45-6P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
 (in preparation stilbene-containing methacrylate monomers)

IT 121417-62-7P 173294-34-3P 173294-36-5P 173294-38-7P 173294-40-1P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
 (preparation and characterization and polymerization with Me methacrylate)

IT 122506-26-7P 173294-35-4P 173294-37-6P 173294-39-8P  
 173294-41-2P  
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
 (preparation and properties and second harmonic generation in corona-poled methacrylate copolymer films)

IT 173294-35-4P 173294-37-6P  
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
 (preparation and properties and second harmonic generation in corona-poled methacrylate copolymer films)

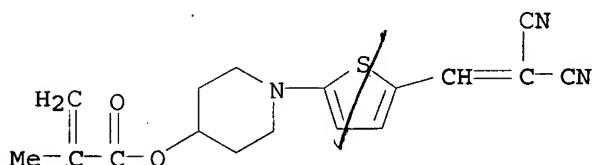
RN 173294-35-4 HCPLUS

CN 2-Propenoic acid, 2-methyl-, 1-[5-(2,2-dicyanoethenyl)-2-thienyl]-4-piperidinyl ester, polymer with methyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 173294-34-3

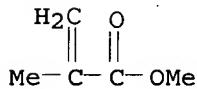
CMF C17 H17 N3 O2 S



CM 2

CRN 80-62-6

CMF C5 H8 O2



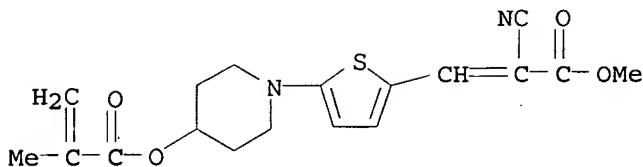
RN 173294-37-6 HCPLUS

CN 2-Propenoic acid, 2-cyano-3-[5-[4-[(2-methyl-1-oxo-2-propenyl)oxy]-1-piperidinyl]-2-thienyl]-, methyl ester, polymer with methyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

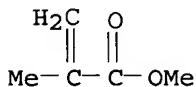
CM 1

CRN 173294-36-5

CMF C18 H20 N2 O4 S



CM 2

CRN 80-62-6  
CMF C5 H8 O2

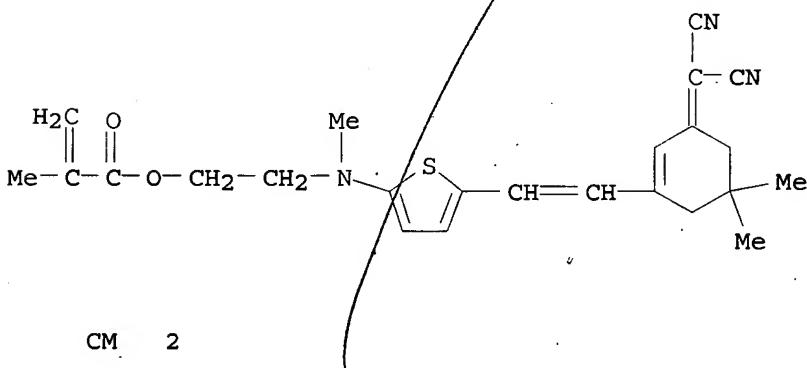
- L21 ANSWER 16 OF 21 HCPLUS COPYRIGHT 2005 ACS on STN  
 AN 1994:535215 HCPLUS  
 DN 121:135215  
 TI Molecular and macroscopic NLO properties of organic polymers  
 AU Man, H. T.; Shu, C. F.; Althoff, O.; McCulloch, I. A.; Polis, D.; Yoon, H. N.  
 CS Hoechst Celanese Res. Div., Summitt, NJ, 07901, USA  
 SO Journal of Applied Polymer Science (1994), 53(5), 641-7  
 CODEN: JAPNAB; ISSN: 0021-8995  
 DT Journal  
 LA English  
 AB Two classes of aryl trienes in which the conjugation was incorporated in six-membered rings have been developed. The microscopic nonlinear optical (NLO) susceptibility,  $\mu\beta$ , the product of the dipole moment and the second-order nonlinear susceptibility, of these **chromophores** were measured using elec. field-induced second harmonic generation (EFISH). The **chromophores** were then copolymerd. as side-chain pendant groups in a methacrylate backbone copolymer with Me methacrylate and their macroscopic electrooptic coeffs.,  $r$ , were exptl. determined using a reflection technique after elec. field poling of the polymers. When compared with 4,4'-N,N-dimethylaminonitrostibene (DANS), these mols. demonstrated electrooptic activities up to three times of DANS, when measured at 1.3  $\mu\text{m}$ . By using a simple two-level free-gas model, the two sets of measurements corresponded closely at low poling fields. At high fields, the simple model breaks down as more detailed poling parameters are required to accurately describe the nonlinear poling effects.  
 CC 36-5 (Physical Properties of Synthetic High Polymers)  
 Section cross-reference(s): 37, 38, 73  
 ST nonlinear optical aryl triene polymer; methacrylate aryltriene copolymer  
 nonlinear optical  
 IT Laser radiation  
     (second-harmonic generation by, in study of mol. and microscopic nonlinear optical properties of poled copolymers containing aryl triene side chains)  
 IT Optical nonlinear property  
     (electro-, second-harmonic generation, of poled copolymers containing aryl triene side chains, effect of poling field strength on)

- IT Electrooptical effect  
(second-harmonic generation, of poled copolymers containing aryl triene side chains, effect of poling field strength on)
- IT Optical nonlinear property  
(susceptibility, second-order, of poled copolymers containing aryl triene side-chains, elec. field-induced second harmonic generation in study of)
- IT 149227-09-8 157338-35-7  
RL: PRP (Properties)  
(microscopic nonlinear optical susceptibility of, elec. field-induced second harmonic generation in study of)
- IT 148798-77-0 157338-37-9  
RL: PRP (Properties)  
(nonlinear optical properties of poled, elec. field-induced second harmonic generation in study of)
- IT 157338-37-9  
RL: PRP (Properties)  
(nonlinear optical properties of poled, elec. field-induced second harmonic generation in study of)
- RN 157338-37-9 HCPLUS
- CN 2-Propenoic acid, 2-methyl-, 2-[[5-[2-[3-(dicyanomethylene)-5,5-dimethyl-1-cyclohexen-1-yl]ethenyl]-2-thienyl]methylamino]ethyl ester, polymer with methyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 157338-36-8

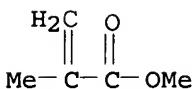
CMF C24 H27 N3 O2 S



CM 2

CRN 80-62-6

CMF C5 H8 O2



L21 ANSWER 17 OF 21 HCPLUS COPYRIGHT 2005 ACS on STN

AN 1994:137085 HCPLUS

DN 120:137085

TI Photophysical and Electron-Transfer Properties of Pseudoisocyanine in the Hydrophobic Microdomain of an Aqueous Polyelectrolyte

AU Jones, Guilford, II; Oh, Churl

CS Department of Chemistry, Boston University, Boston, MA, 02215, USA  
SO Journal of Physical Chemistry (1994), 98(9), 2367-76  
CODEN: JPCHAX; ISSN: 0022-3654

DT Journal  
LA English

AB The binding of pseudoisocyanine (I) to poly(methacrylic acid) (II) has profound effects on the photophys. and photochem. properties of this prototypical cyanine dye. The hydrophobic dye was bound in the microdomain of the compact conformation of II in its (uncharged, "hypercoiled") acid form at pH <4.0 in water. Under these conditions, the fluorescence quantum yield for I was increased 600-fold and its lifetime was extended to 2.7 ns. The dye triplet state observed by flash photolysis provided a very long-lived phototransient ( $\lambda_{max}$  = 640 nm, 50-100- $\mu$ s decay time). Electron-transfer quenching was investigated using the oxidant C(NO<sub>2</sub>)<sub>4</sub> which provided the semioxidized dye radical intermediate (440-nm transient) on cobinding within II hypercoils. The dye was also bound to a covalently modified form of II in which polymer chains were end-labeled with 9-methylanthracene moieties. Electron transfer between anthracene chromophores and I within the polymer domain was observed

CC 41-6 (Dyes, Organic Pigments, Fluorescent Brighteners, and Photographic Sensitizers)

ST pseudoisocyanine complexation polymethacrylic acid; electron transfer pseudoisocyanine complex; fluorescence pseudoisocyanine complexation

IT Electron exchange and Charge transfer  
(in poly(methacrylic acid)-pseudoisocyanine complexes, quenching of, by tetranitromethane)

IT Fluorescence  
(of pseudoisocyanine, effect of complexation with poly(methacrylic acid) on)

IT 25087-26-7, Poly(methacrylic acid)

RL: USES (Uses)  
(complexation of pseudoisocyanine with, fluorescence in relation to)

IT 153005-90-4

RL: PRP (Properties)  
(electron transfer in, quenching of, by tetranitromethane)

IT 509-14-8, Tetranitromethane

RL: USES (Uses)  
(electron-transfer quenching by, in pseudoisocyanine-poly(methacrylic acid) complexes)

IT 977-96-8, Pseudoisocyanine

RL: PRP (Properties)  
(fluorescence of, effect of complexation with poly(methacrylic acid) on)

IT 153005-90-4

RL: PRP (Properties)  
(electron transfer in, quenching of, by tetranitromethane)

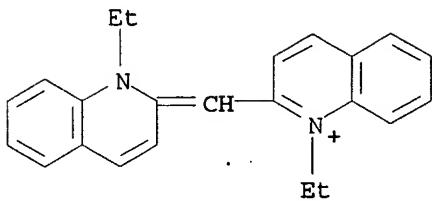
RN 153005-90-4 HCPLUS

CN Quinolinium, 1-ethyl-2-[(1-ethyl-2(1H)-quinolinylidene)methyl]-, iodide, compd. with 2-methyl-2-propenoic acid homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 977-96-8

CMF C23 H23 N2 . I



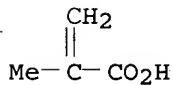
● I -

CM 2

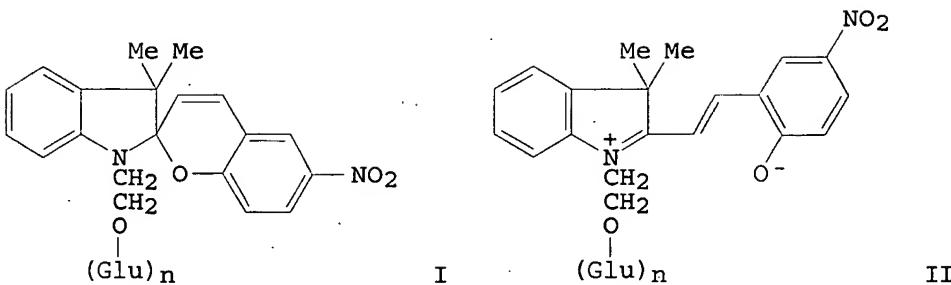
CRN 25087-26-7  
CMF (C<sub>4</sub> H<sub>6</sub> O<sub>2</sub>)<sub>x</sub>  
CCI PMS

CM 3

CRN 79-41-4  
CMF C<sub>4</sub> H<sub>6</sub> O<sub>2</sub>



L21 ANSWER 18 OF 21 HCPLUS COPYRIGHT 2005 ACS on STN  
AN 1992:129588 HCPLUS  
DN 116:129588  
TI Kinetic study of the helix to coil dark reaction of poly(spiropyran-L-glutamate)  
AU Cooper, Thomas M.; Obermeier, Keith A.; Natarajan, L. V.; Crane, Robert L.  
CS Wright Lab., Wright-Patterson Air Force Base, OH, 45433, USA  
SO Photochemistry and Photobiology (1992), 55(1), 1-7  
CODEN: PHCBAP; ISSN: 0031-8655  
DT Journal  
LA English  
GI



- ~~AB An investigation of kinetics of the helix to coil dark reaction light adapted poly(spiropyran-L-glutamic acid) I dissolved in hexafluoroisopropanol was performed. The reaction was associated with the spirobifluorene to merocyanine ring openings to give the ring-opened isomer II. The ring opening reaction monitored with UV/vis spectroscopy showed first order kinetics. Chromophore and polypeptide backbone CD data fit to an expression consistent with a single intermediate series mechanism. The polypeptide  $\alpha$ -helix amide I, the merocyanine chromophore C:C stretch, and the protonated unmodified carboxylate CO stretch bands were monitored by Fourier-transform IR. During the first step of the series mechanism, changes in the hydrogen bonding of the unmodified carboxylate groups occurred, suggesting breakup of polypeptide aggregate. The second step was dominated by the helix to coil transition and the ring opening of the spirobifluorene to the merocyanine. The CD spectrum of the merocyanine in dark adapted I was red shifted and had a narrower bandwidth than the UV/vis spectrum. The kinetic and spectroscopic data suggested that a fraction of the merocyanine chromophores experienced optical activity induced by the chiral polypeptide environment, while the remainder of the merocyanine chromophores were solvated and enantiomeric.~~
- ~~CC 34-3 (Amino Acids, Peptides, and Proteins)  
Section cross-reference(s): 22, 73~~
- ~~ST conformational inversion kinetics polyspiropyran glutamate; helix coil transition spirobifluorene polymer; merocyanine glutamate polymer helix coil transition~~
- ~~IT Conformational inversion  
(of light-adapted poly(spiropyran glutamate) to merocyanine form,  
kinetics of)~~
- ~~IT 25189-52-0 35284-36-7  
RL: PRP (Properties)  
(conformation of, CD in relation to)~~
- ~~IT 79-31-2 Isobutyric acid 26247-79-0 28680-04-8  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(esterification of, with (hydroxyethyl)spiro(indolinebenzopyran))~~
- ~~IT 16111-07-2  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(esterification of, with polyglutamic acid and isobutyric acid)~~
- ~~IT 76483-74-4P  
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
(preparation and absorption spectrum of, vs. merocyanine form)~~
- ~~IT 130299-52-4P  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation and merocyanine ring closure of, glutamate conformation in  
relation to)~~
- ~~IT 130037-82-0P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT~~

(Reactant or reagent)

(preparation and spiropyran ring opening of, glutamate conformation in relation to)

IT 24991-23-9P

RL: SPN (Synthetic preparation); PREP (Preparation)

(preparation and spiropyran-merocyanine ring isomerization of, glutamate conformation in relation to)

IT 130299-52-4P

RL: SPN (Synthetic preparation); PREP (Preparation)

(preparation and merocyanine ring closure of, glutamate conformation in relation to)

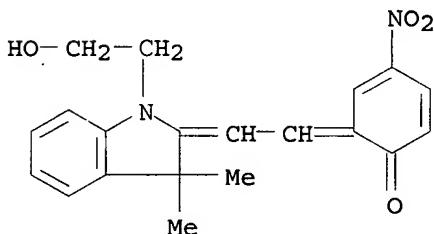
RN 130299-52-4 HCPLUS

CN L-Glutamic acid, homopolymer, 2-[2,3-dihydro-3,3-dimethyl-2-[2-(3-nitro-6-oxo-2,4-cyclohexadien-1-ylidene)ethylidene]-1H-indol-1-yl]ethyl ester (9CI) (CA INDEX NAME)

CM 1

CRN 93633-69-3

CMF C20 H20 N2 O4



CM 2

CRN 25513-46-6

CMF (C5 H9 N O4)x

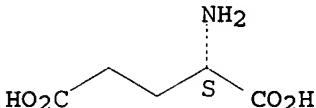
CCI PMS

CM 3

CRN 56-86-0

CMF C5 H9 N O4

Absolute stereochemistry.



L21 ANSWER 19 OF 21 HCPLUS COPYRIGHT 2005 ACS on STN

AN 1991:617990 HCPLUS

DN 115:217990

TI Novel third order nonlinear optical materials composed of ionic polymers and chromophores

AU Tomiyama, Hiromitsu; Okada, Shuji; Matsuda, Hiro; Nakanishi, Hachiro

CS Cent. Res. Lab., Hodogaya Chem. Co., Ltd., Tokyo, 115, Japan

SO Proceedings of SPIE-The International Society for Optical Engineering (1990), 1337(Nonlinear Opt. Prop. Org. Mater. 3), 170-7  
CODEN: PSISDG; ISSN: 0277-786X

DT Journal

LA English

AB The complex composed of ionic polymer and ionic dye was investigated for third order nonlinear optics. The complexes were prepared by ion exchange reaction between sulfonic group of the polymers and cationic dyes. As cationic dyes, hemicyanines (HC-n), where n indicates the number of double bonds between the aromatic rings, oxacyanine (OC-1) and triphenylmethane derivs. were used. The dye content of the complex could be controlled with in the range of 0.1-0.6 molar ratio of bound dyes to the sulfonic groups by the composition of mixed solvents for the reaction. The thin films of complexes were made by spin coating of their CHCl<sub>3</sub>/MeOH solution on fused quartz plates. They were transparent and homogeneous with naked eyes and polarizing microscope. THG measurements were performed by use of pumping laser light from 1.5 to 2.1 μm.  $\chi(3)$  Values of every complexes were linearly proportional to the dye content  $\langle M \rangle$  (mmol/cm<sup>3</sup>). The  $\chi(3)$  values of hemicyanine complexes became large at the pumping wavelengths in resonant region of every dyes, and  $\chi(3)$  of HC-2 was always larger than that of HC-1, whereas that of OC-1 with a sym. structure was ten times smaller than that of HC-1. The largest  $\chi(3)$  values attained at each maximum  $\langle M \rangle$  and at the pumping of 1.5 μm were 1.8 + 10-11 esu for HC-1, 2.4 + 10-11 esu for HC-2 and 1.7 + 10-11 esu for Crystal Violet. However, in the case of Malachite Green and Basic Cyanine 6GH, their THG intensities were negligibly small even at resonant region.

CC 73-10 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

Section cross-reference(s): 36

ST nonlinear optical material ionic polymer **chromophore**

IT Polymers, properties

RL: PRP (Properties)  
(third order nonlinear optical materials composed of chromophores and)

IT **Chromophores and Chromophoric systems**  
(third order nonlinear optical materials composed of polymers and)

IT Optical materials  
(nonlinear, third order, composed of ionic polymers and chromophores)

IT Optical nonlinear property  
(third-order, of materials composed of ionic polymers and chromophores)

IT 131825-77-9 131825-79-1 131825-80-4 131825-82-6  
131825-83-7 131825-86-0 131825-87-1 131853-96-8 131895-95-9  
133945-35-4

RL: PRP (Properties)  
(third-order nonlinear optical properties of)

IT 131825-80-4

RL: PRP (Properties)  
(third-order nonlinear optical properties of)

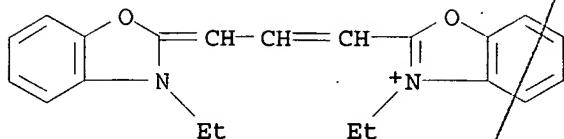
RN 131825-80-4 HCAPLUS

CN Benzoxazolium, 3-ethyl-2-[3-(3-ethyl-2(3H)-benzoxazolylidene)-1-propenyl]-, iodide, compd. with 2-methyl-2-[(1-oxo-2-propenyl)amino]-1-propanesulfonic acid monosodium salt homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 905-96-4

CMF C21 H21 N2 O2 . I



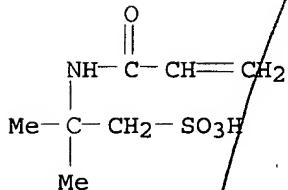
● I-

CM 2

CRN 35641-59-9  
 CMF (C<sub>7</sub> H<sub>13</sub> N O<sub>4</sub> S . Na)x  
 CCI PMS

CM 3

CRN 5165-97-9  
 CMF C<sub>7</sub> H<sub>13</sub> N O<sub>4</sub> S . Na



● Na

L21 ANSWER 20 OF 21 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 1990:523603 HCAPLUS

DN 113:123603

TI Photophysics of photoconducting polymers with pendant bichromophores II: electron and energy transfer photoprocesses in several carbazole-fluorene donor-acceptor bichromophoric systems based on the monomeric reference compounds

AU Zelent, B.; Messier, P.; Gauthier, S.; Gravel, D.; Durocher, G.

CS Dep. Chim., Univ. Montreal, Montreal, QC, H3C 3J7, Can.

SO Journal of Photochemistry and Photobiology, A: Chemistry (1990), 52(1), 165-78

CODEN: JPPCEJ; ISSN: 1010-6030

DT Journal

LA English

AB The intramol. electron and energy transfer photoprocesses of several bichromophoric mols. containing the carbazolyl **chromophore** as electron donor and the polynitrofluorene or 9-dicyanomethylene fluorene **chromophore** as electron acceptor were studied by measurement of the luminescence spectra and electrochem. properties of the corresponding monochromophoric reference compds. For all donor-acceptor systems considered,

the Rehm-Weller free energy is neg. ( $\Delta GET < 0$ ) and for the long-range dipole-dipole interactions between the **chromophores**, the Foerster critical transfer distance  $R_0 \approx 30 \text{ \AA}$  at 296 K. These values of  $\Delta GET$  and  $R_0$  correspond to rate consts.  $k_q$  and  $k_{FT}$  of the same order of magnitude (i.e. approx.  $10^{11}$ - $10^{13} \text{ s}^{-1}$ ) in accordance with the strong fluorescence quenching of the carbazolyl **chromophore** found in all of the bichromophoric mol. systems studied.

CC 74-1 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

Section cross-reference(s): 73

ST electron energy transfer carbazole fluorene photoprocess; photophys carbazole polymer electron acceptor photoprocess

IT Fluorescence

(of bichromophoric molcs. containing carbazolyl **chromophore** and fluorene derivative)

IT Photolysis

(of bichromophoric systems containing carbazolyl **chromophore** donor and fluorene derivative acceptor, photophys. processes in)

IT Ionization potential and energy

Phosphorescence

(of carbazole-fluorene donor-acceptor bichromophoric molcs.)

IT Energy transfer

(intramol., in photoprocesses of bichromophoric systems containing carbazolyl **chromophore** donor and fluorene derivative acceptor)

IT Electron exchange

(photochem., in photoprocesses of bichromophoric systems containing carbazolyl **chromophore** donor and fluorene derivative acceptor)

IT Electric potential

(reduction, half-wave, of carbazole-fluorene donor-acceptor bichromophoric molcs.)

IT 103851-64-5 129045-66-5 129073-15-0 129073-16-1 129073-17-2

**129073-19-4** 129073-21-8 129109-69-9 129226-45-5

129242-32-6 129242-33-7 129242-34-8

RL: USES (Uses)

(intramol. electron and energy transfer photoprocesses of)

IT 86-28-2 103851-68-9 129226-40-0 129226-41-1 129226-42-2

129226-43-3 129226-44-4 129242-31-5

RL: USES (Uses)

(photophysics of photoconducting polymers with pendant bichromophores in relation to)

**129073-19-4**

RL: USES (Uses)

(intramol. electron and energy transfer photoprocesses of)

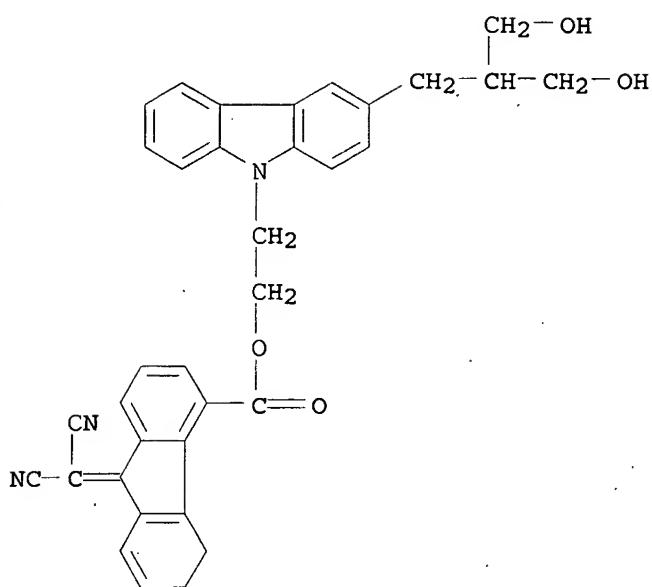
RN 129073-19-4 HCAPLUS

CN Butanedioic acid, polymer with 2-[3-[3-hydroxy-2-(hydroxymethyl)propyl]-9H-carbazol-9-yl]ethyl 9-(dicyanomethylene)-4,9-dihydro-3H-fluorene-5-carboxylate (9CI) (CA INDEX NAME)

CM 1

CRN 129073-18-3

CMF C35 H29 N3 O4



CM 2

CRN 110-15-6  
CMF C4 H6 O4 $\text{HO}_2\text{C}-\text{CH}_2-\text{CH}_2-\text{CO}_2\text{H}$ 

L21 ANSWER 21 OF 21 HCPLUS COPYRIGHT 2005 ACS on STN  
 AN 1985:583451 HCPLUS  
 DN 103:183451  
 TI Preparation and characterization of polymerized liposomes  
 AU O'Brien, David F.; Klingbiel, Richard T.; Specht, Donald P.; Tyminski, Patricia N.  
 CS Res. Lab., Eastman Kodak Co., Rochester, NY, 14650, USA  
 SO Annals of the New York Academy of Sciences (1985), 446 (Macromol. Drugs Carrier Biol. Act. Mater.), 282-95  
 CODEN: ANYAA9; ISSN: 0077-8923  
 DT Journal  
 LA English  
 AB Two methacryloyl lipids,  $\text{CH}_2:\text{CMeCONH}(\text{CH}_2)3\text{N}+\text{Me}[(\text{CH}_2)17\text{Me}]_2\text{Br}$ - (I) [81571-93-9] and  $\text{Me}_2\text{N}+[(\text{CH}_2)17\text{Me}](\text{CH}_2)6\text{O}_2\text{C}(\text{CH}_2)11\text{O}_2\text{CCMe}:\text{CH}_2\text{Br}$ - (II) [87279-14-9], were prepared and polymerized I polymer [87279-13-8] contained a polymer chain near the aqueous interface of the bilayer and water. II polymer [87279-15-0] consisted of a polymer chain in the middle of the bilayer interior which may bond the 2 halves of the bilayer together. Aqueous dispersions of I and II were sonicated at 50° above the lipid phase transition to yield opalescent suspensions of unilamellar and multilamellar liposomes. These monofunctional lipids were soluble in organic solvents even after polymerization  $\text{Me}_3\text{N}+\text{CH}_2\text{CH}_2\text{OP(O)}(\text{O}-)\text{OCH}_2\text{CH}[\text{O}_2\text{CCH}:\text{CH}(\text{CH}_2)10\text{Me}]\text{CH}_2\text{O}_2\text{CCH}:\text{CHCH}:\text{CH}(\text{CH}_2)10\text{Me}$  (III) [88589-84-8] and  $\text{HO}_2\text{CH}_2\text{CH}_2\text{N}[\text{CH}_2\text{CH}_2\text{O}_2\text{CCH}:\text{CHCH}:\text{CH}(\text{CH}_2)10\text{Me}]_2$  (IV)

[88589-82-6] were prepared from 2,4-hexadecadienoic acid and the appropriate head group. Each Zwitterionic bifunctional lipid was readily hydrated to form liposomes that upon sonication yield bilayer structures with radii of 500-1000 Å. The chromophore of III absorbs at 257 nm and UV irradiation of aqueous suspensions of III or IV results in a loss of 95-98% absorption. These dispersions effectively entrap water-soluble compds. in the same manner as methacryloyl liposomes. These dienoyl lipids are crosslinkable by virtue of the reactive group in each acyl chain. The liposomes containing I, II, III and IV are characterized by multiple polymer chains/liposome and a moderate decrease in membrane permeability to glucose.

CC 63-5 (Pharmaceuticals)

Section cross-reference(s): 35

ST polymn methacryloyl liposome; dienoyl lipid polymn liposome

IT Pharmaceuticals

(carriers for, polymerized methacryloyl or dienoyl liposomes as)

IT Liposome

(polymerized methacryloyl or dienoyl lipids-containing, as drug carriers)

IT 87279-13-8P 87279-15-0P 88589-83-7P 88589-85-9P

RL: SPN (Synthetic preparation); PREP (Preparation)

(liposomes, preparation and properties of)

IT 81571-93-9P 87279-14-9P 88589-82-6P 88589-84-8P

RL: SPN (Synthetic preparation); PREP (Preparation)

(preparation of)

IT 88589-83-7P 88589-85-9P

RL: SPN (Synthetic preparation); PREP (Preparation)

(liposomes, preparation and properties of)

RN 88589-83-7 HCPLUS

CN 2,4-Hexadecadienoic acid, [(2-sulfoethyl)imino]di-2,1-ethanediyl ester,  
(all-E)-, homopolymer (9CI) (CA INDEX NAME)

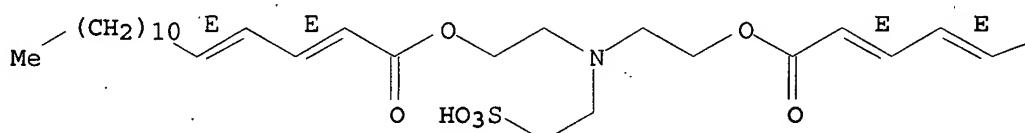
CM 1

CRN 88589-82-6

CMF C38 H67 N O7 S

Double bond geometry as shown.

PAGE 1-A



PAGE 1-B

$$\begin{array}{c} \text{---} \\ | \\ (\text{CH}_2)_10 \\ | \\ \text{Me} \end{array}$$

RN 88589-85-9 HCPLUS

CN 3,5,9-Trioxa-4-phosphapentacosa-11,13-dien-1-aminium, 4-hydroxy-N,N,N-trimethyl-10-oxo-7-[(1-oxo-2,4-hexadecadienyl)oxy]-, inner salt, 4-oxide, [R-(all-E)]-, homopolymer (9CI) (CA INDEX NAME)

CM 1

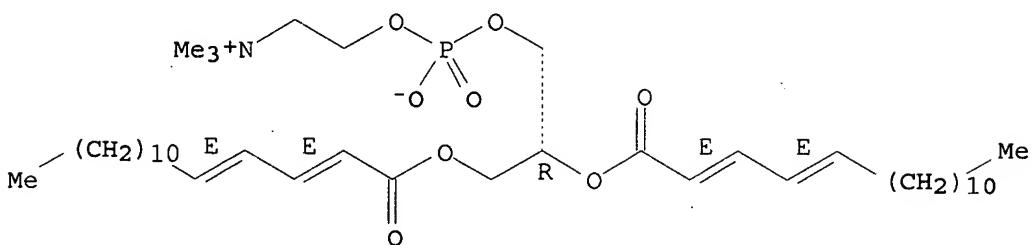
LEE 10/689482 7/5/05 Page 69

CRN 88589-84-8

CMF C40 H72 N 08 P

Absolute stereochemistry.

Double bond geometry as shown.



=>

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\* available and contains the CA role and document type information. \*  
\*  
\*\*\*\*\*

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Experimental and calculated property data are now available. For more  
information enter HELP PROP at an arrow prompt in the file or refer  
to the file summary sheet on the web at:  
<http://www.cas.org/ONLINE/DBSS/registryss.html>

=> d que  
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L2 STR  
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8 @9 10

C~~O C=C-C=C=C=G1  
@4 5 12 11 1 2 3

C-X-N  
@6 @7

VAR G1=4/6/7/9  
NODE ATTRIBUTES:  
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NSPEC IS RC AT 2

KATHLEEN FULLER EIC 1700 REMSON 4B28 571/272-2505

LEE 10/689482 7/5/05 Page 2

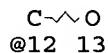
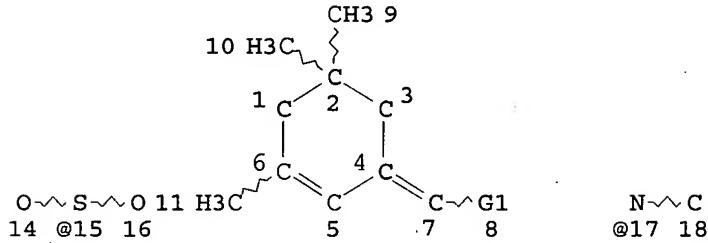
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DEFAULT MLEVEL IS ATOM  
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

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STEREO ATTRIBUTES: NONE

L3 3788 SEA FILE=REGISTRY SSS FUL L2 AND L1  
L7 STR



VAR G1=CN/12/15/17

NODE ATTRIBUTES:

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CONNECT IS E1 RC AT 14  
CONNECT IS E1 RC AT 16  
DEFAULT MLEVEL IS ATOM  
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RSPEC I

NUMBER OF NODES IS 18

STEREO ATTRIBUTES: NONE

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